Date of Hearing: June 29, 2022

ASSEMBLY COMMITTEE ON EDUCATION
Patrick O'Donnell, Chair
SB 1135 (Jones) – As Amended May 19, 2022

SENATE VOTE: 33-0

SUBJECT: The California Youth Cardiac Screening Pilot Program

SUMMARY: Requires the California Department of Education (CDE) to establish the California Youth Cardiac Screening Pilot Program, to provide free cardiac screening for pupils in selected schools in grades 5-12 for the 2022-23 to 2024-25 school years, contingent upon an appropriation for this purpose. Specifically, **this bill**:

1) Requires the CDE, contingent upon an appropriation for this purpose, to establish the California Youth Cardiac Screening Pilot Program (program) to provide free cardiac screening for pupils in grades 5-12 for the 2022-23 to 2024-25 school years.

2) Requires that the cardiac screening through the program include, at a minimum, a cardiac risk assessment of warning signs and family history as well as a 12-lead electrocardiogram (ECG) interpreted by a physician or surgeon.

3) Requires the CDE to solicit voluntary participation by private or public schools or local educational agencies (LEAs) to participate in the pilot program, and to select a sample of these that reflect the ethnic, economic, and urban and rural composition of the state, to the extent practicable.

4) Authorizes the CDE to contract with a nonprofit organization to administer the program and any funding appropriated for this purpose.

5) Requires, if a nonprofit is selected to administer the program, the nonprofit to provide annual budgets and actual expenditures to the CDE yearly and to report any donations or other funds used to support the program.

6) Requires the nonprofit to annually report the number of pupils screened, their ages, the number of cardiac referrals, the economic and ethnic diversity of these pupils, and any other depersonalized data that the CDE may require to judge the program's effectiveness, with oversight from a person skilled in electrophysiology interpretation.

7) Requires the CDE to submit a written report to the Department of Finance and the appropriate policy and fiscal committees of the Legislature by September 30 of each year on data specified above relating to the effectiveness of the program.

8) Authorizes the CDE to receive voluntary or reduced-cost services from medical providers and other individuals related to the program.

9) Requires that this section be in effect until January 1, 2026, and as of that date, to be repealed.

EXISTING LAW:

1) Requires coaches, prior to coaching an athletic activity and every two years thereafter, to complete the sudden cardiac arrest (SCA) training course using the information posted on CDE's website. (Education Code (EC) 33479.2 and 33479.6)

2) Requires annually, before a student participates in an athletic activity governed by the California Interscholastic Federation (CIF), the school to collect and retain a copy of the SCA information sheet required by the CIF for that student. (EC 33479.3)

3) Requires the CDE to post on its website guidelines, videos, and an information sheet on SCA symptoms and warning signs, and other relevant materials to inform and educate students and parents, and to train coaches about the nature and warning signs, including the risks associated with continuing to play or practice after experiencing fainting or seizures during exercise, unexplained shortness of breath, chest pains, dizziness, racing heart rate, or extreme fatigue. (EC 33479.2)

4) Encourages schools and school districts to post the SCA information and materials on their websites to give students, parents, and coaches ready access to the information. (EC 33479.2)

FISCAL EFFECT: According to the Senate Appropriations Committee:

1) The provisions of the bill would be contingent upon an appropriation, resulting in significant Proposition 98 General Fund cost pressure to fund the pilot program. The CDE estimates annual costs of $180,000 for six school sites throughout the state. This estimate assumes approximately $30,000 per site to conduct the screenings which could be lower if donations are received for certain medical supplies and services. However, to the extent that the pilot is expanded, this estimate could be higher and would depend on the number of sites that are added.

2) The CDE also estimates General Fund costs of $190,000 and 1.0 full-time position and .2 person years to administer the program and fulfill the bill's reporting requirement.

COMMENTS:

Need for the bill. According to the author, "Community health screenings promote wellness both through education and identifying risk factors that can lead to serious or fatal consequences. One in 300 youth have a condition that could lead to SCA which is why it is among the top killers of youth in the United States with over 23,000 children dying annually. Bringing together the Foundations that currently provide free, voluntary education and screenings will expand the reach into communities that typically have a lack of health access. It will also bolster our knowledge and understanding of SCA in our diverse populations across California.

Conditions that can lead to SCA are detectable in about 70% of cases with an ECG. The free, voluntary, and non-invasive ECG reading takes just minutes to set up and conduct. Each of the Foundations partners with a cardiologist to ensure a qualified medical doctor reads the results of the ECG.

While every screening starts with the 14-point questionnaire on family history and symptoms, 50% of victims of SCA do not have a family history or present symptoms. Additionally, those that do have symptoms are frequently misdiagnosed or do not recognize the symptoms being associated with a serious condition. The screenings provide the opportunity to increase the likelihood that a condition is identified and treated before it becomes life threatening and to educate youth and parents about SCA. It also educates youth on their families to recognize warning signs and risk factors that should be reported to their medical provider as heart conditions that can cause SCA can develop as you grow. As the American Academy of Pediatrics acknowledges in its Sudden Death in the Young policy statement, warning signs are often missed by youth, parents and practitioners alike so we need more vigilance in identifying these conditions.

The psychological strain is immense on surviving families and friends, especially in a close-knit school environment. There can also be large societal costs as a result of the death of a loved one including divorce, job loss, counseling, etc. And there can be larger cost from the few that survive an SCA even and suffer life-long disabilities as a result. The screenings offer a free, voluntary way to reduce the incidence of SCA. State oversight and costs are minimal for the pilot that will help to educate and protect our school aged children."

Sudden Cardiac Arrest (SCA). According to the American Heart Association (AHA), unlike a heart attack (when blood flow to the heart is blocked), SCA is when the heart malfunctions and suddenly stops beating unexpectedly. It is triggered by an electrical malfunction in the heart that causes an irregular heartbeat (arrhythmia). With its pumping action disrupted, the heart cannot pump blood to the brain, lungs, and other organs. Seconds later, a person loses consciousness and has no pulse. Death occurs within minutes if the victim does not receive treatment.

According to the Centers for Disease Control and Prevention (CDC), about 2,000 young, seemingly healthy people under age 25 in the U.S. die each year of SCA. It is thought to be a leading cause of death in young athletes, but it also affects young people not involved in organized sports.

Recommendations on SCA screening. A 2014 scientific statement from the AHA and the American College of Cardiology Foundation (ACC), *Assessment of the 12-Lead ECG as a Screening Test for Detection of Cardiovascular Disease in Healthy General Populations of Young People*, sudden death of young people because of a variety of complex, predominantly genetic/congenital cardiovascular diseases is a riveting, devastating event and a public health and policy issue of increasing concern. The statement further notes that the desire to screen populations theoretically at risk for cardiovascular disease to reduce morbidity and mortality is understandable in principle, and few would empirically argue against the potential benefit of this practice for some individuals. However, a debate has emerged regarding whether the conditions responsible for these tragic events can be detected effectively by the available testing and examination techniques, and specifically there is debate concerning which strategies are potentially the most reliable to separate those individuals with disease from those who are probably unaffected.

The AHA/ACC statement goes on to say that the 12-lead ECG has been a widely used test to diagnose cardiovascular disease for approximately 70 years. Recently, the ECG has been promoted vigorously as a screening test to detect or raise suspicion of predominantly genetic/congenital cardiac disease in large populations of young trained athletes. The AHA

position against national mandatory screening ECGs of athletes in the United States has periodically been the source of strong reaction and criticism from some investigators. In addition, the question has arisen of whether such a mass screening with ECGs is ethically defensible if confined to only one segment of the population when others may also be at risk. The following are included in the organizations' recommendations regarding cardiovascular screening in young people aged 12-25 years:

a) The AHA 14-point screening guidelines (Table 1) and those of other societies is recommended to be used by examiners as part of a comprehensive history-taking and physical examination to detect or raise suspicion of genetic/congenital and other cardiovascular abnormalities;

b) Screening with 12-lead ECGs (or echocardiograms) in association with comprehensive history-taking and physical examination to identify or raise suspicion of genetic/congenital and other cardiovascular abnormalities may be considered in relatively small cohorts of young healthy people 12-25 years of age, not necessarily limited to athletes;

c) Mandatory and universal mass screening with 12-lead ECGs in large general populations of young healthy people 12-25 years of age to identify genetic/congenital and other cardiovascular abnormalities is not recommended for athletes and non-athletes alike.

Finally, the AHA/ACC statement notes there is insufficient evidence that particularly large-scale/mass screening initiatives are feasible or cost-effective within the current US healthcare infrastructure or that routine 12-lead ECGs provided added mortality benefit for prevention of SCD. The ECG can promote detection of specific cardiovascular diseases and thereby benefit some individuals in a screening environment, but cannot be regarded as an ideal or effective test when applied to large healthy populations.

According to a 2021 Policy Statement of the American Academy of Pediatrics (AAP), *Sudden Death in the Young: Information for the Primary Care Provider, a* thorough personal history, family history, and physical examination are the cornerstone for screening for all children and youth. The 2021 AAP policy statement further notes:

a) All children should be evaluated for conditions predisposing to SCA and Sudden Cardiac Death (SCD) in the course of routine heath care;

b) A thorough and detailed history, family history, and physical examination are necessary to begin assessing SCA and SCD risk;

c) The ECG should be the first test ordered when there is concern for SCA risk. The ECG should be interpreted by a physician trained in recognizing electrical heart disease; and

d) To provide optimal care, ECGs should not be performed in isolation without clinical history, and referral to a specialist should be considered.

Existing law and California Interscholastic Federation (CIF) policies. AB 1639 (Mainschein) Chapter 792, Statutes of 2016, established the Eric Paredes Sudden Cardiac Arrest Prevention Act, which requires the CDE to make available specified guidelines and materials on SCA, requires pupils and parents to sign informational materials before athletic participation, requires training of coaches, and sets requirements for action in the event a pupil experiences specified

symptoms. AB 379 (Mainschein) Chapter 174, Statutes of 2019, adds "an athlete who has passed out or fainted" to existing law that prohibits an athlete from returning to athletic activity until being evaluated and cleared by a health care provider. This statute also requires the athlete, if the health care provider suspects that the athlete has a cardiac condition that puts the athlete at risk for SCA or other heart-related issues, to remain under the care of the healthcare provider to pursue follow-up testing until the athlete is cleared to play.

Arguments in support. According to the sponsor, the Eric Paredes Save a Life Foundation, "As reported by the National Emergency Medical Services Information System, 23,000 youth are stricken annually by a heart condition that often has unrecognized warning signs, no symptoms or risk factors. With studies showing 1 in 300 youth has an undetected heart condition that puts them at risk, and the American Academy of Pediatrics acknowledging warning signs and risk factors are often missed by practitioners and parents alike, it's time for a new approach to this time-worn problem.

While there's growing recognition of the need to incorporate ECG testing into youth preventative care, evidenced by initiatives like screening now authorized for young cadets entering U.S. military academies, the majority of children are still waiting for the opportunity to get their hearts checked. This pilot would both provide a life-saving service to program participants while collecting data to forge a pathway towards a better universal standard of care. This bill is Eric Paredes' legacy. Lost to SCA at 15 because there was no standard by which to identify heart conditions, his death will not be in vain if we can protect other families from a tragedy that could be prevented when heart conditions are routinely identified."

Arguments in opposition. The California Chapter of the American College of Cardiology notes, "The American College of Cardiology (ACC) and the American Heart Association (AHA) have published recommendations for screening youth for being at risk for sudden cardiac arrest and they recommend a physician use a 14-element checklist to determine if the child is at risk for sudden cardiac arrest. If the child is found to be at risk at that point an ECG is recommended.

California ACC is supportive of testing children who may be at risk sudden cardiac arrest. We feel any testing, as contemplated in SB 1135, should be done consistent with the ACC/AHA recommendations which state the physician should perform an assessment first and then, if the child is found to be at higher risk, an ECG may be performed. The state funded pilot program under SB 1135 runs counter to the ACC/AHA recommendations which would have the physician use an ECG regardless of what is found during the cardiac risk assessment."

Recommended Committee amendments. Committee staff recommend that the bill be amended as follows:

1) Require the pilot to follow the most current recommendation of the AHA and ACC for the cardiac screening; if an initial risk assessment indicates any risk factors, to employ additional testing, such as an ECG which is interpreted by a medical professional; and if the ECG shows a risk for SCA, the pupil is to be referred to a cardiovascular specialist.

2) Technical amendment to delete the references to local educational agencies as this is duplicative of schools, including charter schools.

3) Clarify that Proposition 98 funds would not be used for this pilot program.

Related legislation. AB 379 (Mainschein) Chapter 174, Statutes of 2019, adds "an athlete who has passed out or fainted" to existing law that prohibits an athlete from returning to athletic activity until being evaluated and cleared by a health care provider. Requires the athlete, if the health care provider suspects that the athlete has a cardiac condition that puts the athlete at risk for SCA or other heart-related issues, to remain under the care of the healthcare provider to pursue follow-up testing until the athlete is cleared to play.

AB 2009 (Mainschein) Chapter 646, Statutes of 2018, requires a school district or charter school that elects to offer any interscholastic athletic program to ensure that there is a written emergency action plan in place and acquire at least one automated external defibrillator (AED) for each school for the purpose of emergency care in the event of cardiac arrest and other related medical emergencies.

AB 1639 (Mainschein) Chapter 792, Statutes of 2016, establishes the Eric Paredes Sudden Cardiac Arrest Prevention Act; requires the CDE to make available specified guidelines and materials on SCA; requires pupils and parents to sign informational materials before athletic participation; requires training of coaches; and sets requirements for action in the event a pupil experiences specified symptoms.

AB 1719 (Rodriguez) Chapter 556, Statutes of 2016, requires that, commencing in the 2018-19 school year, school districts and charter schools that require a health course for graduation include instruction in compression-only cardiopulmonary resuscitation (CPR).

AB 2217 (Melendez) Chapter 812, Statutes of 2014, authorizes schools to solicit and receive non-state funds for AEDs, and clarifies those schools and school employees are not civilly liable when acting in good faith.

ACR 125 (Villines) Chapter 118, Resolutions of 2010, encourages all local hospitals, health facilities, and health care providers with the ability to perform ECGs and echocardiogram screenings to partner with high schools in their geographic area to provide free screenings for young athletes.

REGISTERED SUPPORT / OPPOSITION:

Support

Eric Paredes Save a Life Foundation (Sponsor)
Association of California Healthcare Districts
Avive Solutions
Cardiac Safety Research Consortium
Children's Cardiology of the Bay Area
Cristian's Big Heart Foundation
El Cajon Valley High School
Grossmont Healthcare District
Heartfelt Help Foundation
Heart Screen New York
Heartshield Project
Just1mike
Justin Carr Wants World Peace
Kyle J. Taylor Foundation

Madison Middle School
Parent Heart Watch
Pomo of Upper Lake Habematolel
Scripps Clinic
Scripps Health
Sidelined USA
Southwest Sports Wellness Foundation
Sudden Arrhythmia Death Syndromes Foundation
Sudden Cardiac Arrest Foundation
Via Heart Project
Numerous individuals

Opposition

American Heart Association
California Chapter American College of Cardiology

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