



Public Health Committee
John Bailey, Government Relations Director
American Heart Association
CPR in Schools

I would like to thank Chairwoman Gerratana and Chairman Ritter and the Committee for providing me with the opportunity comment on Senate Bill 684, An Act Concerning Training in Cardiopulmonary Resuscitation on behalf of the American Heart Association.

The American Heart Association supports increasing the number of people in Connecticut who are trained in lifesaving Cardiopulmonary Resuscitation (CPR). SB 684 is the right first step to making our communities safer by training thousands in CPR and AED awareness. In order to ensure that students are properly learning this lifesaving skill, we request that additional language be added to SB 684 clearly stating CPR training in school will include a psychomotor skills component and students be aware of AEDs.

Studies have shown the retention rate of CPR skills in programs that do not offer psychomotor skills practice, just offering a cognitive-only CPR lesson, see a standard level of proficiency that does not create individuals adept to perform bystander CPR.¹ The hands on experience, the act of doing compressions, for students is critical for the lifesaving skills to take root. We would also ask you to include AED awareness to SB 684. AEDs are simple and easy to use but a critical link in the change of survival. Adding these two components will have the impact of making our towns safer when a life threatening emergency, like a neighbor or a loved one, falls victim to a sudden cardiac arrest (SCA).

A SCA occurs when the heart's electrical system abruptly malfunctions and the heart suddenly stops beating normally. SCA is often confused with a heart attack, which typically happens when blocked arteries prevent blood from reaching the heart's muscles. SCA cuts a wide swath throughout the U.S population. About 1000 people have an out-of-hospital SCA each day, more than the total number of Members in the U.S. House of Representatives.²

SCA usually occurs in adults and is a leading cause of cardiac-related death.³ However, children are not without risk. Each year, there are an estimated 1,900 to 14,200 cases of out-of-hospital SCA in children nationwide. Approximately 5-15% are caused by an abnormal heart rhythm called ventricular

¹ Vaillancourt C, Stiell IG, Wells GA. Understanding and improving low bystander CPR rates: a systematic review of the literature. CJEM. 2008;10:51– 65. <http://www.cjem-online.ca/sites/default/files/pg51.pdf>

² Lloyd Jones D, et al. Heart Disease and Stroke Statistics – 2010 Update: A Report From the American Heart Association. Circulation. December 17, 2009. <http://circ.ahajournals.org/content/121/7/e46.full.pdf>

³ Centers for Disease Control and Prevention. State- specific mortality from sudden cardiac death – United States, 1999. MMWR 2002;51(6):123-6. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5106a3.htm>

fibrillation.⁴ Student athletes who suffer SCA often have an underlying heart abnormality that is undiagnosed.

The causes of SCA are not fully understood, but coronary heart disease is a factor in approximately 70% of cases.⁵ Other common risk factors include: abnormal heart rhythms, congenital heart defects, congestive heart failure, illegal drug use, and heart infections. Although overall deaths from heart disease have declined over the past 30 years, the mortality rate from SCA has not. There are almost 424,000 EMS-assessed out-of-hospital cardiac arrests each year in the United States – and most of them are fatal.⁶

There is hope for SCA victims, but time is the enemy. To survive SCA, they must receive immediate cardiopulmonary resuscitation (CPR) to increase the blood flow to the heart and brain, along with an electrical shock from a defibrillator to stop the abnormal heart rhythm. For every minute without life-saving CPR and defibrillation, chances of survival decrease 7%-10%.⁷ Less than 10% of victims who suffer a SCA outside of a hospital setting survive.⁸

In a study published in *Circulation*, the Journal of the American Heart Association, the authors found that, for out-of-hospital cardiac arrest survivors who received citizen-initiated CPR, the data clearly showed health-related quality of life is better for survivors who received CPR.⁹ The results emphasized the importance of training as many community members as possible in CPR readiness. Given the low rate of citizen-initiated CPR in many communities, The American Heart Association recommends that training in cardiopulmonary resuscitation (CPR), to include hands-on skills practice, be a requirement for graduation from secondary schools.

Because 96% of children ages 14-17 attend a public or private school,¹⁰ CPR training in high schools can teach a substantial portion of the population how to deliver this lifesaving technique and help increase the likelihood that individuals suffering an SCA will receive high quality CPR. Training students in CPR will fill schools, as well as entire communities, with lifesavers. Students in possession of CPR skills won't be afraid to take action if they witness an unresponsive person who is not breathing or not breathing normally. They will know to call 911 and to begin pushing hard and fast on the center of the chest, becoming the first link in the chain of survival.

CPR training in schools should introduce and reinforce the importance of: recognition of a possible cardiac arrest; calling 911; and providing high-quality chest compressions with minimal interruptions. In order to assure the necessary competencies are developed, the trainings which are offered must include hands-on skills practice. Training should also include, at least, an awareness of the purpose of an AED, a device designed for use by non-medical bystanders that can restore a normal heart rhythm in many situations.

⁴ Lloyd Jones D, et al. Heart Disease and Stroke Statistics – 2010 Update: A Report From the American Heart Association. *Circulation*. December 17, 2009. <http://circ.ahajournals.org/content/121/7/e46.full.pdf>

⁵ Centers for Disease Control and Prevention. State- specific mortality from sudden cardiac death – United States, 1999. *MMWR* 2002;51(6):123-6. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5106a3.htm>

⁶ Go A, et al. Heart Disease and Stroke Statistics – 2013 Update: A Report From the American Heart Association. *Circulation*. December 12, 2012; http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_301793.pdf

⁷ Link MS, Atkins DL, Passman RS, Halperin HR, Samson RA, White RD, Cudnik MT, Berg MD, Kudenchuk PJ, Kerber RE. Part 6: electrical therapies: automated external defibrillators, defibrillation, cardioversion, and pacing: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2010;122(suppl 3):S706 –S719

⁸ Go A, et al. Heart Disease and Stroke Statistics – 2013 Update: A Report From the American Heart Association. *Circulation*. December 12, 2012; http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_301793.pdf

⁹ *Circulation*.2003; 108: 1939-1944; <http://circ.ahajournals.org/content/108/16/1939.full>

¹⁰ U.S. Department of Education. The Condition of Education. June 2009. <http://nces.ed.gov/pubs2009/2009081.pdf>

In January 2011, the American Heart Association called on state legislatures to establish CPR and Automated External Defibrillator (AED) training before graduation. When that statement was made Idaho and Alabama were the only state that required its high school students learn CPR before graduation. The number of states has grown to 18, ensuring that over a million students annually are trained in lifesaving CPR. Connecticut's high schools graduate over 40,000 students a year.¹¹ By teaching students CPR, there is potential to save thousands of lives by filling our streets with lifesavers – those trained to give sudden cardiac arrest victims the immediate help they need to survive until EMTs arrive.

The ultimate goal for the American Heart Association is working to create a generation of lifesavers by making sure students learn CPR before they graduate. According to the latest science, trainees, including schoolchildren, can achieve acceptable levels of proficiency in adult CPR in 30 minutes or less.¹² Instruction must be based on nationally recognized guidelines and include hands-on instruction, but would *not* require certification. Young adults trained in Hands Only CPR at school have saved lives by knowing what to do during those precious few minutes after someone suffers sudden cardiac arrest. They have saved brothers and sisters, parents and other adults—including complete strangers. Making CPR training part of schools' existing classes will change our community and save lives, year after year.

We look forward to working with the sponsor of Senate Bill 684 and the members of the committee to make this legislation more effective in an effort to train the greatest number of Connecticut's residents in lifesaving CPR.

Thank you,

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¹¹ http://www.sde.ct.gov/sde/lib/sde/PDF/EvalResearch/2010_State_level.pdf

¹² Circulation. 2011;123:691-706; <http://www.circ.ahajournals.org/content/123/6/691.full.pdf>