

# Project ADAM Heart Safe School Manual

A Roadmap for Project ADAM School Site Coordinators



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Since 1999, Project ADAM affiliate programs have provided schools with the resources necessary for planning and implementing school cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) programs. The goals of the school manual address the needs of School Site Coordinators as they work toward attaining Project ADAM Heart Safe School designation. These goals may be shared with school administration and community members who have a vested interest in the outcomes of a program that aims to prevent sudden cardiac death.

## Manual Goals

After reviewing this Project ADAM School Manual, you should be able to:

1. Understand Adam's story along with the mission and vision of Project ADAM.
2. Understand the need for an immediate response to sudden cardiac arrest (SCA) in schools.
3. Describe the three tier system used to identify a school's stage of readiness to respond to a sudden cardiac emergency.
4. Attain Heart Safe School designation and establish a sustainable program utilizing the outlined structure recommendations, resources, and local affiliate support.

## Mission and Vision

Mission: Project ADAM saves lives by empowering schools and communities to be prepared for a sudden cardiac arrest.

Vision: Eradicate sudden cardiac death through school and community prevention.

## History

In 1999, 17-year-old Adam Lemel was playing basketball in Whitefish Bay, Wisconsin, when he collapsed and died. Adam had suffered a sudden cardiac arrest, meaning his heart suddenly stopped pumping blood to the rest of his body. His life may have been saved through the use of an automated external defibrillator (AED), but one was not available that day.

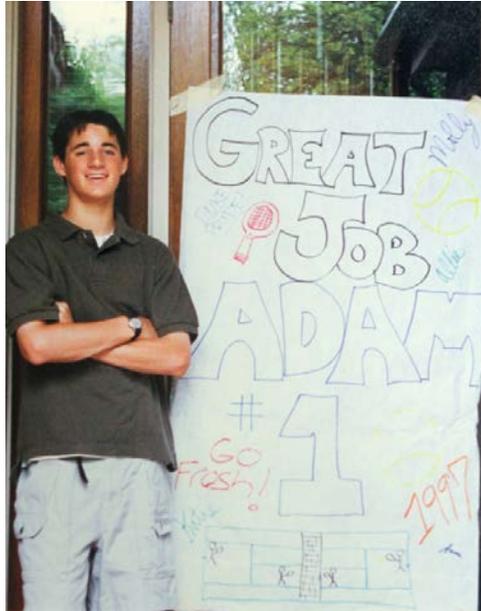
Adam's parents, Patty Lemel-Clanton and Joe Lemel, collaborated with Children's Hospital of Wisconsin to create this program in Adam's memory.

What was started in 1999 as a result of a personal tragedy has grown into a national program that brings Heart Safe School resources and expertise to schools across the country. Program outreach has been responsible for helping to save the lives of youth and adults in schools, making the mission just as critical as it was from the start.

*“I want to live a life I can be proud of.” Adam wrote this in his 8th grade autobiography. It seemed at 14 years old Adam understood the meaning of life. He did live a life he could be proud of and through Project ADAM he continues to. The spirit of Adam lives on through Project ADAM, making a positive impact on the world, helping save the lives of countless others and helping schools become a safer place through cardiac emergency preparedness and awareness.*

*-Patty Lemel Clanton, Adam’s Mother*

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## Section 2 - Scope of the Issue

### Prevalence of Sudden Cardiac Arrest (SCA)

The Institute of Medicine’s (IOM) 2015 report [Strategies to Improve Cardiac Arrest Survival: A Time to Act](#), estimates that “more than 1,600 people suffer a cardiac arrest every day in the United States, defining an immense and sustained public health problem” (Institute of Medicine, 2015, p.13).

*“State and local departments of health and education, and leading organizations in cardiac arrest response and treatment, should partner with training organizations, professional organizations, public advocacy groups, community and neighborhood organizations and service providers, and local employers to promote public awareness of the signs, symptoms, and treatment of cardiac arrest. These efforts require public cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) training across the lifespan, creating a culture of action that prepares and motivates bystanders to respond immediately upon witnessing a cardiac arrest” (Institute of Medicine, 2015, p. 13).*

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Within the IOM's strategic report, five recommendations are identified to improve the outcomes of sudden cardiac arrest. Project ADAM is currently focused on the following two recommendations:

1. Educate and train the public in CPR, use of automated external defibrillators, and EMS-system activation.
  - Project ADAM affiliate programs and schools work toward implementing coordinated CPR-AED programs in schools.
2. Establish a national registry of cardiac arrest in order to monitor performance in terms of both success and failure, identify problems, and track progress.
  - Project ADAM affiliate programs and schools support efforts toward a national registry and strive to track cardiac events in the schools we serve.

## The Case for CPR-AED Programs in Schools

In developing [\*Cardiac Emergency Response Planning for Schools: A Policy Statement\*](#), the American Heart Association sought the expertise of representatives across many partner organizations. In 2016, a collaborative policy statement was published.

Schools partnering with Project ADAM will aim to achieve the following recommendations within this policy supported by the American Heart Association:

- Establish a Cardiac Emergency Response Team
- Activate the team in response to an SCA
- Implement AED placement and routine maintenance within the school (similar to fire-extinguisher protocols)
- Disseminate the plan throughout the school campus
- Maintain ongoing staff training in CPR/AED use
- Practice AED drills (akin to fire and lock-down drills)
- Integrate local EMS with the plan
- Review and evaluate the plan on ongoing and annual basis

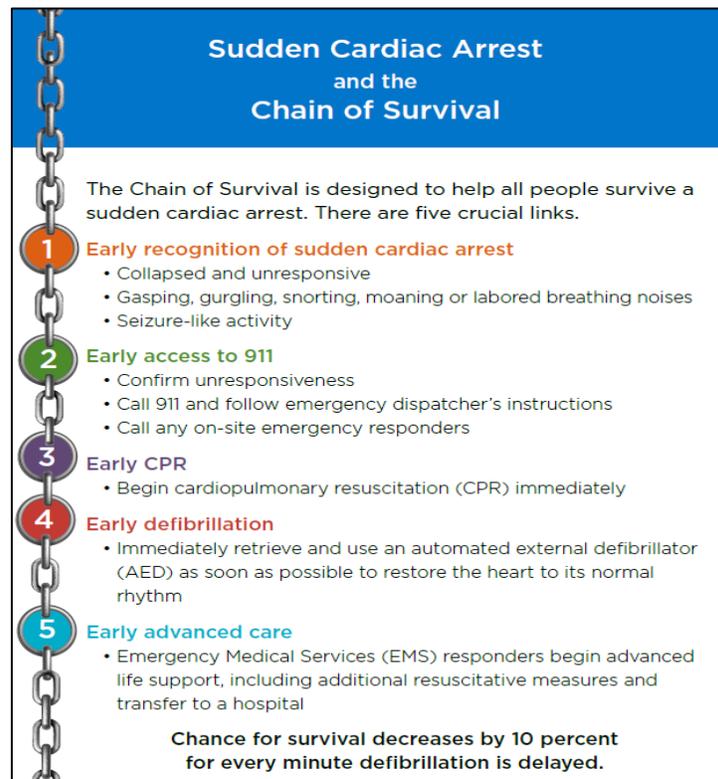
*“A sudden cardiac arrest in school or at a school event is potentially devastating to families and communities. An appropriate response to such an event—as promoted by developing, implementing, and practicing a cardiac emergency response plan (CERP)—can increase survival rates. Understanding that a trained lay-responder team within the school can make a difference in the crucial minutes between the time when the victim collapses and when emergency medical services arrive empowers school staff and can save lives” (Rose et al., 2016, p. 263).*

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## The Chain of Survival

Project ADAM affiliate programs aim to support schools with the implementation of the Cardiac Chain of Survival. Since survival rates decrease by 10% with each minute of delayed defibrillation, the chain of survival is designed to minimize the time between arrest and defibrillation and increase survival. The following five steps comprise the chain of survival:

1. Early recognition of sudden cardiac arrest (SCA)
  - Collapsed and unresponsive
  - Gaspings, gurgling, snorting, moaning or labored breathing
  - Seizure-like activity
2. Early Access to 911
  - Confirm unresponsiveness
  - Call 9-1-1 and follow emergency dispatcher's instructions
  - Call any on-site emergency responders
3. Early CPR
  - Begin cardiopulmonary resuscitation (CPR) immediately
4. Early Defibrillation
  - Immediately retrieve and use an AED to restore the heart to its normal rhythm
5. Early Advanced Care
  - Emergency medical services (EMS) responders begin advanced life support and transfer to a hospital



*Based on the American Heart Association's Out-of-hospital chain of survival.*

## Legislative Considerations

Many states have laws addressing Sudden Cardiac Arrest awareness, CPR/ AED use and athletic program requirements. Check your state requirements to help guide you with your school plan. This can be found at [www.projectadam.com/advocacy/legislation-chart](http://www.projectadam.com/advocacy/legislation-chart).

### **Good Samaritan Law**

Nationally, the lay rescuer is protected under the Good Samaritan Law. Elements of the Good Samaritan Law may vary from state to state, however, they are uniformly in place to encourage bystanders to act in a situation where a person is unresponsive. The most common misperception is that a rescuer can harm a victim by inadvertently delivering a shock to the heart. An AED is a safe device that anyone can use and has been tested by the manufacturer and approved by the Food and Drug Administration (FDA) to appropriately detect a shockable rhythm in both children and adults. Therefore, CPR-AED training and use of this device can only enhance lay rescuers' efforts to provide the best possible care in an emergency.

*“In addition, each state has common laws (based on case law or precedent) that may pertain to standards of care and civil liability. Some laws may penalize those who fail to respond. It is best to have legal counsel review the school’s CERP in the context of federal and state laws, including specific laws providing legal protection for lay rescuers within their jurisdiction” (Rose et al., 2016, p. 268).*

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### **CPR-AED Related Legislation**

Many states mandate CPR/AED training for school staff and students as well as AED placement in schools.

### **SCA Awareness and Plans**

States have begun to pass legislation requiring schools to educate their staff on the warning signs of sudden cardiac arrest, and to have a written plan and protocol outlining the action steps a school will take in the event of a cardiac emergency.

### **School Response Legislation**

In 2015, Tennessee was the first state to pass legislation requiring schools to complete an annual cardiac emergency response drill. Other states mandate an annual drill when an AED is present.

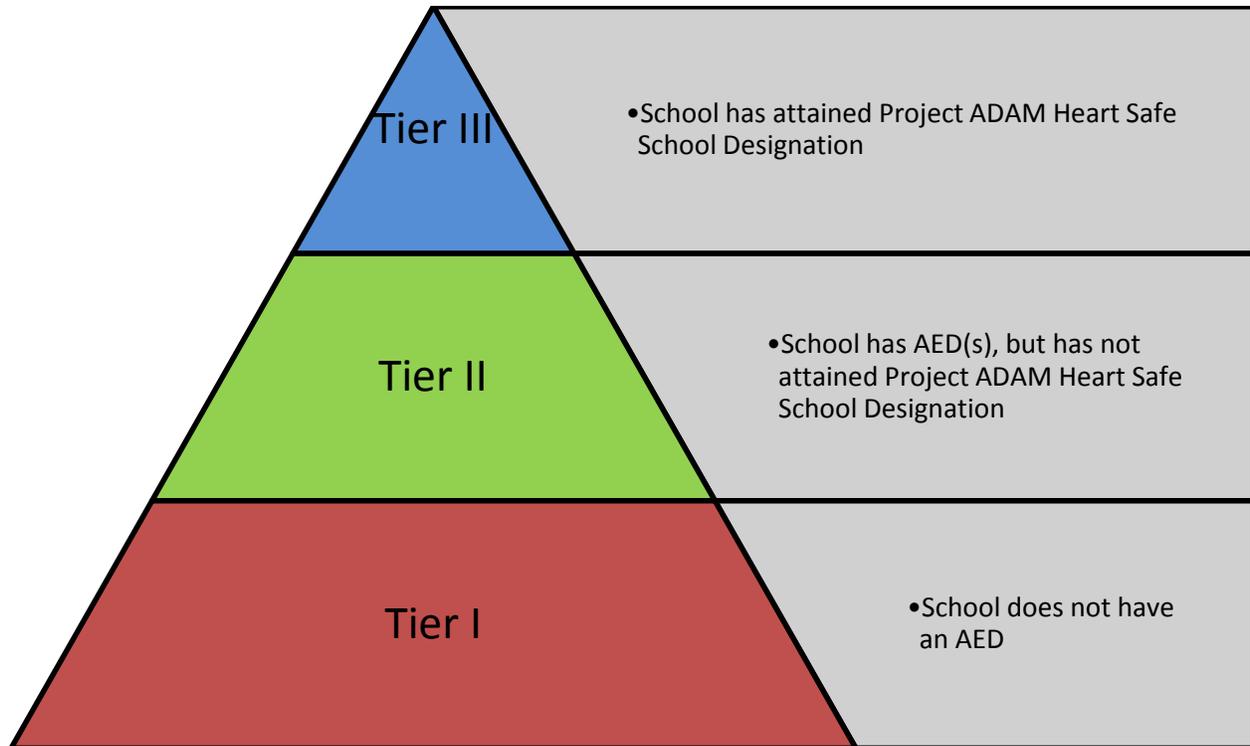
### **Interscholastic Athletic Legislation**

Some states have requirements for athletic participants, parents, coaches and trainers for sudden cardiac awareness and CPR/AED requirements.

*\*See up-to-date CPR-AED legislation in Project ADAM affiliate states by going to our national website, [www.projectadam.com/advocacy](http://www.projectadam.com/advocacy).*

## Section 3 – Project ADAM Structure

### Project ADAM Tier Framework



The Project ADAM framework for school readiness in response to sudden cardiac arrest uses three tiers to describe the appropriate levels of program strategy support, with the goal of working towards the top of the pyramid to achieve Project ADAM Heart Safe School Designation.

- **Tier I** indicates the school does not have an AED. Emphasis is placed on identifying funding opportunities, appointing a Project ADAM site coordinator and educating school staff on the importance of CPR and AEDs in the school setting.
- **Tier II** indicates the school has an AED(s), but has not achieved Project ADAM Heart Safe School Designation. The school will focus on initiating regular cardiac emergency response drills and enhancing communication and training opportunities.
- **Tier III** indicates the school has achieved Project ADAM Heart Safe School Designation. This includes accessible AEDs, CPR-AED trained staff and a written and practiced plan to respond to SCA.

## Primary and Secondary Prevention of Sudden Cardiac Death

In order to effectively combat sudden cardiac death in schools, Project ADAM recommends both primary and secondary prevention tactics.

Primary prevention (**prior to** SCA occurring) includes:

- Staff awareness and education on early warning signs of a sudden cardiac event
- Staff and student CPR/AED training
- Cardiac Emergency Response Plan (CERP) development
- CERP/AED Practice Drills
- AEDs throughout the school campus that are accessible and maintained

Medical Community (well child exams) / Athletic Pre-participation Exams

- Use of a pre-participation sports physical questionnaire with personal and family history and physical exam-such as the one endorsed by the American Academy of Pediatrics (AAP)

Secondary prevention (**upon** SCA occurring) is also crucial because sudden cardiac events often occur without recognition or warning. This includes:

- Enacting school's CERP
- Prompt CPR and use of an AED, which plays a vital role in the survival of victims of sudden cardiac events

## It Takes a Village

Project ADAM recommends including a number of key school, medical and community partners in order to implement and sustain a successful program.

### Project ADAM School Site Coordinator

To build a sustainable school program it is critical to identify an individual willing to serve as the Project ADAM school site coordinator. This person can be a:

- School nurse
- Athletic director
- Athletic trainer
- Physical education teacher
- Teacher
- Administrator
- Other willing individual

**Note:** The school site coordinator should be in the school consistently (for example, if not full-time, at least on a weekly basis) in order to ensure the program's efficacy.

Key responsibilities (in partnership with a dedicated team):

- Development of program budget
- Creation of a cardiac emergency response team
- AED maintenance
- Facilitation of annual cardiac emergency response drills
- Up-to-date CPR/AED training
- Consistent communication with local Project ADAM affiliate program

We recommend connecting with your local Project ADAM affiliate as you work through the planning and implementation steps. Promptly notify your local Project ADAM affiliate of any events where the AED is used.

### Cardiac Emergency Response Team

Create a team within your school made up of at least 5 to 10 people or 10% of the school's staff that will respond in the event of a cardiac emergency by activating the chain of survival. Team members should be dispersed throughout the campus to ensure adequate coverage.

This team will also commit to participating in at least one cardiac emergency response drill per year so that a practiced plan is in place if a cardiac emergency occurs. Contact your local Project ADAM affiliate for support in implementing drills.

Team members may include:

- Custodial staff
- Athletic trainer
- Athletic director
- Coach
- Teacher
- School nurse
- Parent
- Student
- Administration

Key responsibilities:

- Up-to-date CPR/AED training
- Participate in at least one cardiac emergency response drill annually
- Commit to regular meetings with the team to improve response and communication

## Medical Director

Project ADAM recommends a medical director within your state or local community, and connection to a hospital system. The medical director can:

- Provide input on best practices
- Serve as an advocate to assist with funding or community/administration buy-in if needed
- Help during annual education days
- Review a school event and help with assessment of practice
- Write an AED prescription if required in your state

## Fire and Emergency Medical Services (EMS)

Create a relationship with your local fire and/or emergency medical services (EMS) organization as they are a critical link to your Project ADAM program.

Fire and EMS representatives may be able to assist with:

- AED purchasing
- Determining AED locations
- CPR/AED training
- Developing your cardiac emergency response plan
- Participating in CPR/AED drills

When your policies and procedures for your cardiac emergency response plan are complete, submit the plan to these same fire and EMS representatives so they are aware of the school's plan and program.

*“Fire and EMS organizations are generally traditional and have functioned as the sole provider of out of hospital care. Progressive Fire and EMS organizations understand that during a cardiac arrest even the best responses need the help of bystanders prior to the arrival of EMS and Paramedics. Fire and EMS are trusted and respected organizations in our communities but they must be committed to partnering with others to improve sudden cardiac arrest outcomes. Go out and find the right champion (they may not always be at the top of the organization but they exist) in local Fire and EMS organizations as the benefits are synergistic to all.”*

*—Jon Cohn, Fire Chief and Emergency Management Director, Greenfield, Wisconsin*

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Once key roles and partners have been identified, your school is ready to utilize the program implementation section of this manual.

## Section 4 – Program Implementation

### Project ADAM Heart Safe School Checklist

There are many steps to consider when building a school CPR/AED program in partnership with Project ADAM. The first step in building your program is to complete the Heart Safe School Designation Checklist. This tool is used as an initial assessment of your school's cardiac emergency preparedness. Once the checklist is complete, we have a Checklist Toolkit that addresses ways to meet each criteria point. It may take anywhere from 6-12 months to get your program up and running. Connect with your local Project ADAM affiliate for support.

The Heart Safe School checklist, all customizable implementation documents and videos can be found and downloaded on our website: [www.projectadam.com/heartsafeschools](http://www.projectadam.com/heartsafeschools)

### Project ADAM Tier Framework Considerations

#### Tier 1 – School does not have an AED

If your school does not have an AED, you will want to make it a priority to obtain the necessary equipment. Securing funding may take some time if it is not already in your school budget. Please refer to the AED Site Assessment and Fundraising Tools documents. Contact your local Project ADAM affiliate if you need assistance.

#### Tier 2 – School has an AED but has not attained Heart Safe School designation

If your school campus has an AED(s), it is important to ensure your unit(s) is checked for performance readiness. You will also want to ensure that your campus has an adequate number of AEDs. AED placement is crucial to the efficacy of the chain of survival. The American Heart Association (AHA) recommends the AED should be available to shock the victim within **two minutes** of a person falling to the ground. Therefore, it is extremely important the AED is placed for quick and easy access in an emergency. Refer to the Site Assessment document for more details.

#### Tier 3 – School has attained Heart Safe School designation

Once your school becomes Heart Safe, you will need to:

- Review your written Cardiac Emergency Response Plan (CERP) annually and make any necessary changes
- Conduct at least 1 AED drill annually
- Continue to check your AED monthly/per manufacturer directions and document each time.
- Conduct an all staff annual awareness training on Sudden Cardiac Arrest (refer to Project ADAM All Staff Orientation for content)
- Update and track CPR/AED training for your Cardiac Emergency Response Team annually (for those trained in Hands Only CPR) or every 2 years (for those certified)

## References

IOM (Institute of Medicine). 2015. *Strategies to improve cardiac arrest survival: A time to act*. Washington, DC: The National Academies Press.

Rose et al. (2016). Cardiac Emergency Response Planning for Schools: A Policy Statement. *NASN School Nurse* 31(5), 263-270. Doi: 10.1177/1942602X16655839.