MI HEARTSafe Schools

2015 MASN Annual Conference

May 7-8, 2015

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Davison Community Schools

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Learning Objectives

- Explain the public health surveillance and engagement of partners working to prevent sudden cardiac death of the young (SCDY) in Michigan
- Recognize the importance of cardiac emergency preparedness for schools
- Consider MI HEARTSafe Schools as an example of cardiac emergency preparedness at local level
New Michigan Department of Health and Human Services (MDHHS)

Vision:
Promote better health outcomes, reduce health risks and support stable and safe families while encouraging self-sufficiency
**Former Michigan Department of Community Health (MDCH)**

**Mission:**

MDCH will **protect, preserve, and promote** the health and safety of the people of Michigan with particular attention to providing for the needs of **vulnerable and under-served populations**.
What is Sudden Cardiac Death?

• Specific
  - *Witnessed death*: victim in his or her usual state of health without acute symptoms for ≤6 hours prior to death
  - *Unwitnessed death*: victim last seen in his or her usual state of health without acute symptoms until <24 hours before death

• General
  - Deaths occurring out-of-hospital or in the emergency room or as “dead on arrival” with an underlying cause of death reported as a cardiac disease

Sudden Cardiac Death (SCD)

Common Causes of Death in the U.S.:

- Prostate Cancer (2001): 31,500
- Breast Cancer (2001): 40,800
- Automobile Accidents (1996): 43,300
- Total: 118,495
- Sudden Cardiac Arrest (annual): 250,000

Sources:
1. http://www.americanheart.org
**Sudden Cardiac Death of the Young (SCDY)**

- Variably defined as < 30, < 35, < 40 years of age
- Especially tragic event; often high-profile, associated with young athletes
- A potentially preventable condition, due to the heritable nature of certain cardiac disorders
- More likely to have genetic determinants than similar conditions in older persons
  - As many as 40% of SCDY victims have been identified as having a heritable disease
- Immediate family members of SCDY victims may be at increased risk of sudden death
SCDY Etiologies

- Coronary artery disease
- Coronary artery abnormalities
- Myocardial disorders
  - Hypertrophic cardiomyopathy
  - Arrhythmogenic right ventricular dysplasia (ARVD)
  - Dilated cardiomyopathy
- Other structural/functional abnormalities
  - Primary pulmonary hypertension
  - Restrictive cardiomyopathy
  - Marfan syndrome with aortic dissection
  - Aortic valve stenosis
- Primary electrical abnormalities/ion channelopathies
  - Long QT syndromes
    - Romano Ward
    - Jervell Lange Nielsen
    - Acquired
  - Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT)
  - Brugada syndrome
  - Short QT Syndrome
  - Wolf-Parkinson White syndrome
  - Heart block: congenital or acquired
- Environmental causes
  E.g., commotio cordis (‘blow to chest’) cocaine, stimulants, inhalants, gasoline, others

Signs of Inherited Conditions

- Occurs in *young* individuals
- *Multiple* family members
- Closely *related* individuals
- Seen in multiple *generations*
Michigan Sudden Cardiac Death of the Young (SCDY) Surveillance and Prevention, 2003-2015

Aim: Prevention of SCDY (1-39 years of age) in Michigan through early detection of individuals at risk, treatment of those with predisposing conditions, & intervention for victims experiencing sudden cardiac arrest.

www.michigan.gov/scdy
Death Certificates Review: Significant Health Disparities

Age-Adjusted Mortality Rates:

Statewide: 5.5 per 100,000

White Males: 6.1 per 100,000

Black Males: 16.5 per 100,000

White Females: 2.4 per 100,000

Black Females: 8.3 per 100,000

1-9 years: 1.0 per 100,000

10-19 years: 1.2 per 100,000

20-29 years: 4.1 per 100,000

30-39 years: 14.5 per 100,000

Michigan age-adjusted mortality rate is 5.2 per 100,000 (5.5 per 100,000 in 1999-2009)

Top age-adjusted counties
- Hillsdale = 7.7 per 100,000
- Gogebic = 6.7 per 100,000
- Gratiot = 6.5 per 100,000
- Genesee = 6.4 per 100,000

Top counties in counts
- Wayne = 944 deaths
- Oakland = 234 deaths
- Macomb = 164 deaths

Please contact duquetted@michigan.gov for other county-specific data
Top Ten Causes of SCDY by Gender, 2003-2012
Top Ten Causes of SCDY by Race, 2003-2012

Percent (%)

Michigan Population
Atherosclerotic Cardiovascular Disease
Dilated Cardiomyopathy
Hypertensive Heart Disease
Atherosclerotic Heart Disease
Acute Myocardial Infarction
Other H-Defined and Unspecified Causes
Other Hypertrophic Cardiomyopathy
Cardiomyopathy
Cardiac Arrhythmia
Congenital Malformation of Heart, Unspecified

ICD-10 Codes
125.0 142.0 111.9 125.1 121.9 R99 142.2 142.9 149.9 Q24.9
Family History of SCDY

Michigan 2007 Behavioral Risk Factor Survey (MiBRFS)

- 2,856 Michigan adults were asked about SCDY
- 6.3% have a family history of SCDY
  - 26.2% with multiple relatives
  - 35.5% with first degree relative
- Significantly more blacks (11.2%) than whites (5.4%) reported SCDY

### Table 3
Family History of Sudden Cardiac Death of the Young
2007 Michigan Behavioral Risk Factor Survey

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>6.3</td>
<td>(5.2 - 7.7)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 – 24</td>
<td>3.8</td>
<td>(1.6 - 8.7)</td>
</tr>
<tr>
<td>25 – 34</td>
<td>8.6</td>
<td>(4.9 - 14.6)</td>
</tr>
<tr>
<td>35 – 44</td>
<td>4.2</td>
<td>(2.4 - 7.1)</td>
</tr>
<tr>
<td>45 – 54</td>
<td>7.7</td>
<td>(5.4 - 10.9)</td>
</tr>
<tr>
<td>55 – 64</td>
<td>5.9</td>
<td>(4.1 - 8.5)</td>
</tr>
<tr>
<td>65 – 74</td>
<td>8.5</td>
<td>(5.4 - 13.3)</td>
</tr>
<tr>
<td>75 +</td>
<td>5.4</td>
<td>(3.5 - 8.2)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5.4</td>
<td>(3.9 - 7.4)</td>
</tr>
<tr>
<td>Female</td>
<td>7.7</td>
<td>(6.1 - 9.6)</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>5.4</td>
<td>(4.3 - 6.8)</td>
</tr>
<tr>
<td>Black non-Hispanic</td>
<td>11.2</td>
<td>(7.7 - 16.0)</td>
</tr>
<tr>
<td>Other non-Hispanic</td>
<td>9.4</td>
<td>(3.8 - 21.3)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>10.8</td>
<td>(5.8 - 19.3)</td>
</tr>
<tr>
<td>High school graduate</td>
<td>8.8</td>
<td>(6.6 - 11.7)</td>
</tr>
<tr>
<td>Some college</td>
<td>4.7</td>
<td>(3.3 - 6.8)</td>
</tr>
<tr>
<td>College graduate</td>
<td>4.4</td>
<td>(2.8 - 6.8)</td>
</tr>
<tr>
<td><strong>Household Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; $20,000</td>
<td>7.8</td>
<td>(5.1 - 11.7)</td>
</tr>
<tr>
<td>$20,000 - $34,999</td>
<td>8.4</td>
<td>(5.9 - 11.8)</td>
</tr>
<tr>
<td>$35,000 - $49,999</td>
<td>8.8</td>
<td>(5.5 - 13.8)</td>
</tr>
<tr>
<td>$50,000 - $74,999</td>
<td>4.1</td>
<td>(2.1 - 7.9)</td>
</tr>
<tr>
<td>$75,000 +</td>
<td>3.2</td>
<td>(1.9 - 5.2)</td>
</tr>
</tbody>
</table>

*a* Among all respondents (n = 2,856), the proportion who reported having at least one biological family member that had a sudden cardiac death, or sudden unexplained death, between the ages of 1 and 39.

**Note:** Interviewers were instructed not to include spouses of the respondent, infants less than one year of age, as well as drug-related deaths, traumatic deaths (such as car crashes), suicides, homicides, or individuals who had a long illness.

*b* The denominator in this subgroup is less than 50.
Table 3. Prevalence of health-related characteristics among Michigan adults by family history of sudden cardiac death of the young (SCDY)

<table>
<thead>
<tr>
<th>Health-Related Characteristic</th>
<th>Has Family History of SCDY</th>
<th>( \chi^2 )</th>
<th>Wald-F P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No health insurance</td>
<td>17.8 (11.0-27.5)</td>
<td>10.6 (9.0-12.5)</td>
<td>0.1048</td>
</tr>
<tr>
<td>On Medicaid insurance</td>
<td>23.1 (15.4-33.1)</td>
<td>10.6 (9.0-12.4)</td>
<td>0.0034*</td>
</tr>
<tr>
<td>No personal doctor</td>
<td>13.0 (7.9-20.5)</td>
<td>15.0 (12.9-17.4)</td>
<td>0.5396</td>
</tr>
<tr>
<td>No routine checkup in past year</td>
<td>29.3 (20.1-40.5)</td>
<td>31.3 (28.7-34.0)</td>
<td>0.7059</td>
</tr>
<tr>
<td>No blood cholesterol test in past 5 years</td>
<td>27.4 (17.9-39.6)</td>
<td>20.1 (17.6-23.0)</td>
<td>0.2286</td>
</tr>
<tr>
<td><strong>Health Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fair to poor general health</td>
<td>16.1 (11.1-22.7)</td>
<td>14.3 (12.6-16.2)</td>
<td>0.5613</td>
</tr>
<tr>
<td>Rarely-never receive needed emotional support</td>
<td>12.3 (7.1-20.4)</td>
<td>6.2 (5.1-7.6)</td>
<td>0.0773</td>
</tr>
<tr>
<td>Has a disability</td>
<td>26.4 (19.6-34.6)</td>
<td>21.8 (19.8-23.9)</td>
<td>0.2296</td>
</tr>
<tr>
<td>Obese (BMI ≥ 30)</td>
<td>34.0 (25.0-44.4)</td>
<td>27.6 (25.2-30.2)</td>
<td>0.2203</td>
</tr>
<tr>
<td><strong>Chronic Conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever diagnosed with high blood pressure</td>
<td>39.5 (30.8-49.1)</td>
<td>27.9 (25.8-30.2)</td>
<td>0.0131*</td>
</tr>
<tr>
<td>Ever diagnosed with high cholesterol (among tested)</td>
<td>42.4 (33.0-52.4)</td>
<td>40.8 (38.1-43.5)</td>
<td>0.7492</td>
</tr>
<tr>
<td>Ever diagnosed with diabetes</td>
<td>13.1 (8.9-19.1)</td>
<td>8.6 (7.5-9.9)</td>
<td>0.0801</td>
</tr>
<tr>
<td>Ever diagnosed with cardiovascular disease</td>
<td>10.0 (6.2-15.8)</td>
<td>9.5 (8.3-10.9)</td>
<td>0.8345</td>
</tr>
<tr>
<td><strong>Behaviors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current smoking</td>
<td>32.2 (23.3-42.6)</td>
<td>20.1 (17.9-22.6)</td>
<td>0.0243*</td>
</tr>
<tr>
<td>No leisure-time physical activity</td>
<td>20.2 (13.3-29.5)</td>
<td>19.3 (17.2-21.5)</td>
<td>0.8199</td>
</tr>
<tr>
<td>Inadequate physical activity</td>
<td>48.3 (38.2-58.5)</td>
<td>47.3 (44.5-50.0)</td>
<td>0.8542</td>
</tr>
<tr>
<td>Inadequate fruit and vegetable consumption</td>
<td>82.4 (75.6-87.6)</td>
<td>78.1 (75.7-80.2)</td>
<td>0.1973</td>
</tr>
</tbody>
</table>

*Reported having at least one biological family member who had a sudden cardiac death, or sudden unexplained death, between the ages of 1 and 39.

*Generated from multivariable logistic regressions with each health-related characteristic as the dependent variable, family history of SCDY as the independent variable, and age group, sex, race, education, and household income as possible confounding variables.

p < .05.
Michigan SCDY Expert Mortality Review Panel

- Confirm the cause of death or suggest an alternative cause
- Describe the factors that may have contributed to the death
- Identify possible risk to family members
- Suggest recommendations for prevention of future deaths

Clinical and Family History
- African American teenage male
- Student, basketball player
- Symptoms 4 months – “skipped beats and fluttering” especially while playing basketball; dizzy when rising from chair; tired all the time; legs hurt all the time; he thought these symptoms meant he was out of shape so he would practice harder
- Private health insurance coverage
- Family History - mother had “stroke“ as teen; maternal uncle had heart attack at 40 years old
- Sports physical 4.5 months prior
- Never referred to cardiologist or specialist
- Weight 82nd percentile

Day of Death
- Playing basketball, collapsed
- No CPR prior to EMS, police were needed to allow EMS access
- Locked AED at site, coach had no training on AED
- No pulse/not breathing

Autopsy
- Hypertrophic cardiomyopathy
- Toxicology – negative for alcohol, illicit drugs
- Family members not made aware of genetic implications
Expert Panel Findings

Patient-related factors
- Education when to seek medical care
- Family history and screening

Physician-related factors
- Quality of pre-participation sports physical
- Awareness of need to screen family members, and when genetics or cardiology referral indicated
- Education on content of family history screening form

System-related factors
- CPR training for coaches, or CPR training for community and schools
- If AED present on-site, require training and availability
- Update Michigan High School Athletic Association pre-participation sports screening template to include 2007 AHA 12 point screen and 2004/2010 national consensus recommendations
- Mechanism for family contact, including assuring autopsy report reaches primary care provider
- Storage of biologic specimen / DNA
Using Data for Action:
Continuing Steps, 2008-2015
Based on SCDY expert mortality review, 21 action steps identified to prevent SCDY

- Pre-participation sports physicals and screenings
- Provider education and public awareness of SCDY risk factors
- Emergency response protocols
- Public awareness of cardiac symptoms and CPR/AED training
- Medical examiner protocols
“...no important health problem will be solved by clinical care alone, or research alone, or by public health alone- But rather by all public and private sectors working together”

Multiple Sectors Working to Prevent SCDY in Michigan

- **Academia**
  - Wayne State University, Michigan State University, University of Michigan, Oakland University, Ferris State University, Grand Valley State University, Central Michigan University, Saginaw Valley State University

- **Employers/industry**
  - AED distributors, Health plans

- **Health care delivery system**

- **Media**
  - Local television news, radio, newspapers
  - Detroit Free Press
  - APHA Newsletter
  - EMS Today

- **Communities**

- **Government**
  - Michigan Department of Health and Human Services (Cardiovascular Section; Vital Records; Genomics; EMS), Michigan Department of Education; Centers for Disease Control and Prevention, state legislatures, local health departments, local ISDs, NHLBI
Recommended 12 point screening protocol for young athletes (AHA 2007)

- **Personal History**
  - Palpitations
  - Exertional chest pain/discomfort
  - Unexplained syncope
  - Exertional unexplained fatigue
  - Elevated systemic blood pressure
  - Heart murmur

- **Family History**
  - Assess premature death, disability from heart disease in close relative younger than 50 years old
  - Known cardiovascular genetic conditions

- **Physical Exam**
  - Assess heart murmur
  - Femoral pulses
  - Physical stigmata of Marfan syndrome
  - Brachial artery blood pressure
Example of SCDY Prevention Policy Accomplishment: MHSAA Pre-participation Screening and Physical Form

- Pre-participation Sports Screening:
  - Work group with 50-55 members, including Michigan High School Athletic Association (MHSAA)
  - Reviewed published literature on evidence-based and/or consensus recommendations for pre-participation sports screening and forms from 50 states
  - Recommended revised form (based on national consensus form) to MHSAA; adopted by MHSAA Board of Directors, December 2010
  - Required to be used since 2011/2012
    - 500,000 forms distributed per year

Heart Health

Family History

![Preparticipation Physical Evaluation History Form](image)
2012: Michigan SCDY Case Receives National Attention

Can Sudden Cardiac Death of the Young be Prevented?

Categories: genomics, heart disease
March 1st, 2012 3:06 pm ET - Guest Blogger
Debra Duquette, MS, CDC, Genomics Coordinator & Beth Anderson, MPH, Michigan, Genomics Epidemiologist, Michigan Department of Community Health

A Michigan Story on Lessons Learned and Action Steps to Take

The winter months have arrived and with them comes a certain madness, specifically March Madness. On March 17, 2012 the NCAA men’s college basketball tournament will commence. Most of the focus will be on cheering for the teams we picked to win our brackets; however, as Michigan learned last year, this isn’t the only thing we need to focus on.

On March 3, 2011, with less than 30 seconds left in overtime in Fennville High School’s final regular season men’s basketball game, a winning layup was scored that brought Fennville’s team an undefeated record. With district playoffs in Fennville’s future, the gymnasium was full of celebration. Within moments, the crowd went silent as their star player collapsed to the ground. Wes Leonard, the player who had scored the winning basket moments before was now unconscious. Over 2,000 fans stood stunned, waiting for paramedics to arrive. Although an AED was present at the school, it was not charged and CPR was not performed because people did not think that cardiac arrest could be a fault in someone so young. Wes was later declared dead at a local hospital and the autopsy showed that he died of cardiac arrest due to an enlarged heart.

Sudden deaths of young athletes bring attention to an important public health problem known as sudden cardiac death of the young (SCDY), which occurs in non-athletes, too. On average, an estimated 66 athletes die suddenly of cardiac cause each year in the United States. Each year in Michigan alone, approximately 200 people aged 1-39 years die suddenly of a cardiac cause.
Michigan Alliance for Prevention of Sudden Cardiac Death of the Young (MAP-SCDY)

- **Vision:** The MAP-SCDY strives to prevent sudden cardiac death of the young
- **Mission:** The MAP-SCDY is a statewide collaborative network that provides leadership, education, and resources to help communities prevent sudden cardiac death of the young

  - Created in 2012
  - MDHHS Genomics facilitates
  - Very active listserv
  - Membership meetings twice per year
  - Over 50+ members representing multiple sectors

- Open to anyone to become member
- Contact [duquetted@michigan.gov](mailto:duquetted@michigan.gov) to be added to the membership list

- **Current activities:**
  - Increase public and professional awareness of SCDY
  - Promote AHA ‘Chain of Survival’
  - Create and maintain website
  - Assist members in their SCDY prevention activities
  - Promote MI HEARTSafe Schools
  - Provide information to assist achieving MI HEARTSafe Schools criteria
    - Including examples of written cardiac emergency plans and other resources
American Heart Association

Chain of Survival

- Immediate **recognition** of cardiac arrest and **activation** of the emergency response system
- Early **cardiopulmonary resuscitation (CPR)** with an emphasis on chest compressions
- Rapid **defibrillation**
- Effective **advanced life support**
- Integrated **post-cardiac arrest care**
Public Access to Defibrillation (PAD) in Schools

- 20% of the population is in a school on any given day
- Survival rate of up to 74% when bystander CPR is provided and defibrillation occurs within 3-5 min of collapse
- Each minute that passes without defibrillation reduces chance of survival by 7-10%
- Most school cardiac arrests are witnessed and present with ventricular fibrillation

Cardiac arrests at school usually not in students

By Frederik Joelving
NEW YORK | Fri Sep 23, 2012 4:53pm EDT

(Reuters Health) - Student athletes collapsing from cardiac arrest in the middle of a game may grab headlines, but when someone's heart gives up at a school, it's usually not a youngster's.

In a new five-year study, researchers from Michigan found that only two out of 47 cardiac arrests at K-12 schools occurred during sports events. In fact, as many as a third of cases happened after 5 pm and mostly in adults.

"Schools are community-gathering places, and two-thirds of our cases were adults," said Dr. Robert Swor, an emergency physician at Oakland University William Beaumont School of Medicine in Royal Oak.

His findings, based on registries and interviews with bystanders and school officials across the country, show that fewer than two out of every 1,000 cardiac arrests overall happen at K-12 schools. Sixteen of the 47 cardiac arrests at schools involved minors.

Still, Swor told Reuters Health, "these are high-profile events individually. Every time something happens in a school like this it gets a lot of community awareness."

- National study of 30,603 SCA events
  - 47 SCA Events at K-12 schools
  - Only 16 SCA Events in individuals < 19 years old
- Conducted by Dr. Swor, Beaumont Emergency
- MAP-SCDY partner
Response to Cardiac Arrest and Selected Life-Threatening Medical Emergencies: The Medical Emergency Response Plan for Schools: A Statement for Healthcare Providers, Policymakers, School Administrators, and Community Leaders

Mary Fran Hazinski, David Markenson, Steven Neish, Mike Gerardi, Janis Hootman, Graham Nichol, Howard Taras, Robert Hickey, Robert O’Connor, Jerry Potts, Elise van der Jagt, Stuart Berger, Steve Schexnayder, Arthur Garson, Jr, Alidene Doherty, Suzanne Smith and Writing Group

Circulation 2004;109;278-291
AHA Recommendations

• AED placement in schools should be part of a coordinated, practiced medical emergency response plan

• Recommended elements of an ideal emergency response plan:
  1. Efficient campus-wide communication system
  2. Coordination, practice, and evaluation of a response plan with the school nurse and physician, athletic trainer, and local EMS agency
  3. Risk reduction
  4. Training in CPR and first aid for staff and students
  5. An AED program

Circulation 2004;109;278-291
AHA Recommendations (con’t)

2. Coordination, practice, and evaluation of a response plan

- Development includes school nurse, athletic trainers and physicians
- Local EMS input should be sought and involved in plan development
- Written notification protocols should specify who should be contacted and when
- Copy of completed plan provided to EMS and local dispatch
- Should detail the location of emergency equipment
- Schools should practice and evaluate the plan
- Designated rescuers should participate in periodic unannounced drills
AHA Recommendations (con’t)

3. Risk reduction
   • Education about injury prevention
   • Proper maintenance of equipment and grounds
   • Awareness of children with medical conditions

4. CPR training for students and staff
   • Ideally all staff and students are trained
   • No specific number of trained staff recommended but should be sufficient to ensure that a trained responder can reach a medical emergency with the proper equipment anywhere on campus within 90 seconds
   • Staff responders should be trained in First Aid
   • Appropriate equipment (may include medications) should be available
AHA Recommendations (con’t)

5. AED Programs should include:
   - Medical/healthcare provider oversight
   - Appropriate training of anticipated rescuers in CPR and use of the AED
   - Coordination with the EMS system
   - Appropriate device maintenance
   - An ongoing quality improvement program to monitor training and evaluate response with each use of the device
     - Device should be centrally located near a telephone
     - EMS should be aware of the AED placement

*Project ADAM listed as a resource in Circulation paper
PAD in Schools: Variable Presence and Training

- 2007 survey of high schools in Washington\(^1\):
  - Larger schools more likely to have AEDs
  - Most AEDs funded by donations

- 2013 national survey of 3,371 high schools\(^2\):
  - Larger, suburban schools are more likely to have an AED
  - AED training was not assessed

MI HEARTSafe School Program Launched!

- Launched on November 7, 2013
- Joint partnership with MDHHS, MDE, AHA, and MAP-SCDY in 2013/2014
- Added MHSAA in 2014/2015
- Open to any Michigan school building to apply at no cost
- Designation valid for 3 years
- 40 school buildings awarded in May 2014
- Disseminated at press conference, press releases, websites, newsletters
- Awarded schools received certificate, decals, banners
- 122 school buildings to be awarded in May 2015
**2014/2015 MI HEARTSane School Application**

**Application must be received by April 15, 2015 for consideration for the 2014/2015 school year.**

The Michigan Department of Community Health (MDCH), Michigan Department of Education (MDE), Michigan High School Athletic Association (MHSAA) and American Heart Association (AHA) in conjunction with the Michigan Alliance for Prevention of Sudden Cardiac Death of the Young (MAP-SCDY) encourages and promotes public awareness of the life-saving potential of bystander response in the event of sudden cardiac arrest (SCA). The chance of surviving a SCA is optimized when bystanders recognize the signs of SCA and respond rapidly by calling 9-1-1 and use cardiopulmonary resuscitation (CPR) and accessible automated external defibrillators (AEDs) until EMS arrives to provide advanced life support.

In order to increase awareness, MDCH, MDE, MHSAA, AHA and MAP-SCDY have developed an initiative to award Michigan schools with a MI HEARTSane School designation. The MI HEARTSane School program encourages schools to prepare and protect students, staff, and visitors in the event of a cardiac emergency.

A MI HEARTSane School designation is awarded when a school meets the following minimum criteria:

1. A written cardiac emergency response policy and procedure that is approved by state law (DEA-1 approved in February 2014)
2. A cardiac emergency response team with current CPR/AED certification, sufficient to respond to an emergency during school hours AND during organized after-school activities and sports.
3. At least 30% of staff, 50% of coaches, and 50% of P.E. staff with current CPR/AED certification.
4. A sufficient number* of accessible, properly maintained and inspected AEDs readily to use, with signs identifying AED locations.

* Sufficient number is estimated by time to scene, in place, and analyzing within a target goal of 3 minutes.

5. The performance of at least one cardiac emergency response drill** per year.

** Including recognizing signs of cardiac arrest and using the American Heart Association’s Chain of Survival calling 9-1-1 and use of bystander CPR and AED until EMS arrive to provide advanced life support.

6. All athletic pre-participation screening completed with the Michigan High School Athletic Association (MHSAA) form (updated in 2010).

If you have any questions about how to become a MI HEARTSane School, please visit [www.migrc.org/miheartssafe](https://www.migrc.org/miheartssafe), or contact Debra Duquette at the Michigan Department of Community Health using the contact information below. After you have completed the following application, please return it by fax or scan and e-mail to:

Debra Duquette, MDCH Genetics Program Coordinator
E-mail: duquetted@mdch.state.mi.us
Phone: 517-335-9286
Fax: 517-335-9790

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How to become a MI HEARTSane School

**Minimum Criteria:**

- A written medical emergency response plan (ERP), reviewed at least annually with staff.
- A medical emergency response team (MERT) with current CPR/AED certification, sufficient to respond to an emergency during school hours AND during organized after-school activities and sports.
- At least 30% of staff, 50% of coaches and 50% of P.E. staff with current CPR/AED certification.
- The sufficient number* of accessible, properly maintained and inspected AEDs, ready to use, with signs identifying AED locations.

* Sufficient number is estimated by time to scene, in place, and analyzing within a target goal of 3 minutes.
The governing body of a school that operates any of grades K to 12 shall adopt and implement a cardiac emergency response plan for the school.

The cardiac emergency response plan shall address and provide for at least all of the following:

(a) Use and regular maintenance of AEDs, if available.

(b) Activation of a cardiac emergency response team during an identified cardiac emergency.

(c) A plan for effective and efficient communication throughout the school campus.

(d) If the school includes grades 9 to 12, a training plan for the use of an AED and in CPR techniques.

(e) Incorporation and integration of the local emergency response system and emergency response agencies with the school’s plan.

(f) An annual review and evaluation of the cardiac emergency response plan.

Signed by Gov. Rick Snyder on February 25, 2014
MAP-SCDY Workgroup Develops Resources for Schools

Developing a cardiac emergency response plan

Michigan law now requires that schools have a written cardiac emergency response plan. A cardiac emergency response plan includes recognizing the signs of sudden cardiac arrest, calling 9-1-1, and initiating the use of CPR and AED until local EMS arrives. Questions to consider in developing a cardiac emergency response plan:

- What defines a cardiac emergency?
- What are the signs of sudden cardiac arrest?
- How will the emergency response team and EMS be activated?
- What are the roles of the responders?
- How will students be managed?

The following documents were created by the Michigan Alliance for Prevention of Sudden Cardiac Death of the Young (MAP-SCDY) to assist Michigan schools with a written cardiac emergency plan template. These samples may be modified for use at your school, and should be reviewed by the appropriate legal counsel for your school.

- Cardiac Emergency Response Plan
- Cardiac Emergency Response Team
- Cardiac Emergency Response Protocol
- Project ADAM - CPR/AED drill
- Contacting your local EMS - State of Michigan Medical Control Authorities Directory

These additional resources created by national organizations may also be helpful to schools developing a cardiac emergency response plan:

- American Heart Association's Medical Emergency Response Plan for Schools:

https://migrc.org/Library/HeartSafeActionPlan.html
University Of Michigan Study: AEDs and Cardiac Emergency Response Plans

- 133 Michigan public high schools completed survey in 2014-2015
- Survey results
  - 100% of schools with AED
  - 82% with more than one AED
  - 89% AED maintenance at least annually
- Significantly fewer Cardiac Emergency Response plans in schools located in counties of lower socioeconomic status and counties with higher SCDY incidence
CARDIAC EMERGENCY READINESS URGED

Ovid-Elsie, 2012

HAPPY ENDING

Ovid-Elsie athlete alive because coaches had the right equipment and knew what to do

By Ken Palmer

Chris Fowler doesn't remember much about the episode that interrupted an otherwise ordinary football practice and made him a poster boy of sorts for emergency readiness.

But the Ovid-Elsie High School sophomore is all too aware that things might have turned out differently had his school district and his coaches not been prepared to react.

On Oct. 9, Fowler and his teammates were running wind sprints when his heart rhythm suddenly changed.

"I had just finished running a sprint," Fowler, 16, said Monday. "I remember telling the quarterback that my ankle hurt. That's the last thing I remember.

Fowler dropped to the ground, then collapsed.

Coaches began administering CPR. The district's athletic director pulled out a school-building emergency kit containing a semiautomatic external defibrillator, or AED for short.

The AED detected an irregular heart beat and delivered a single shock to Fowler's chest, jolting his heart back into rhythm. Fowler was taken to Sparrow Hospital and later taken to Matt's Children's Hospital in Ann Arbor.

"It was very emotional," said coach Nick Lash. "I don't think we would have been prepared to do that without the AED.

He was taken to the hospital and remained in a hospice unit until Thursday. He was released Friday and is home.

"I'm just glad he's doing so well," said psychological counselor Jennifer Draper.

"He was able to pass the test and is now a part of the team."

Dr. Mark辛生, a cardiologist at Sparrow, said it's important to have the AEDs in schools and for all coaches to be trained in CPR.

"If we had the AED on hand, and if the coach had been trained in CPR, we would have been able to get Fowler to the hospital much faster," Dr. Mark辛生 said.

"It's a good thing they had the AED on hand. It's a good thing Fowler is alive."

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See CPR/AED, Page 2A
“My son (11) suffered cardiac arrest 9/15/2014 while at school. He collapsed and because of the staff who were trained only 4 days earlier on how to use the AED, he was saved. As a mother there's not enough thanks in the world I can give them.”

Adrian, Michigan
February 2015

Teen saved after heart stops on soccer field

Doctor says rescue highlights importance of AEDs

Published On: Feb 27 2015 06:40:53 PM EST | Updated On: Mar 02 2015 02:25:04 PM EST

Teen saved after heart stops

Play
Project ADAM Michigan

www.mottchildren.org/projectadam
This checklist is under development by Project ADAM Michigan for use by Michigan schools. Plans are being refined.

Schools who would like to participate should contact projectadam@med.umich.edu
“I thought we were forgotten.... I thought no one cared...”

- Michigan mother of 18 year old victim, upon being asked for a next-of-kin interview
Thank you!

Funding for this project was made possible in part by a cooperative agreement from the Centers for Disease Control and Prevention from 2003-2008. The contents are solely the responsibility of the author and does not necessarily represent the official views of CDC.