# Integrating Lay Rescuers into the Plan for School Emergencies

Will You Be Prepared?





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Disclosure: I am an original contributor and medical director for Mobilize Rescue Systems and a paid consultant for ZOLL Medical.

### **Integrating Lay Rescuers into the Plan for School Emergencies** Campus Response Planning

Objectives:

- •Understand the "gap" of response in the pre-hospital environment.
- •Empower lay rescuers and help ease their reluctance to get involved in medical emergencies.
- •Build an algorithm for lay rescuers to focus on the most time sensitive conditions and the equipment needed to control major bleeding, airway, and cardiac emergencies.
- •Empower a system for responders to supplement emergency action plans (EAP's).



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Bystanders can make a difference

### **Emergency Response**

What exactly is the problem here?



### **Emergency Response**

"The gap" in response time



The "Gap" - Averages 9 minutes



### Most time sensitive medical emergencies

#### Where minutes matter most

Massive or uncontrolled bleeding How do we define that?

Respiratory failure

Choking

Cardiac Arrest



Severe Bleeding: <u>https://www.dhs.gov/stopthebleed</u>

Hypoxic Brain Death: <u>https://medlineplus.gov/ency/article/001435.htm</u>.

EMS response times: Mell, H., Mumma, S., Hiestand, B., Carr, B., Holland, T., Stopyra, J. (2017, July 19). Emergency medical response times in rural, suburban and urban areas [Editorial]. *JAMA Surgery DOI*: 10.1001/jamasurg. 2017. 2230



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### The average ambulance **response time is 7-14 minutes**

Since severe bleeding can become fatal in 3-5 minutes<sup>1</sup> and airway complications can cause hypoxic brain death in as little as six minutes<sup>2</sup>, it is critical that ordinary citizens are prepared to deal with unexpected medical emergencies while they wait for professional first responders.

### Trauma is the #1 cause of death for ages 1-44

According to the National Trauma Institute, trauma alone is the leading cause of death for ages 1-44, and accounts for 30% of all lives lost in the U.S.<sup>3</sup>

### **30,000 preventable** traumatic deaths

The American College of Surgeons estimates that 30,000 traumatic deaths could be prevented each year if medical care was provided by someone at the scene.<sup>4</sup>

### **CPR training fades** after three months

In a survey of CPR studies, investigators found that 67% of the participants failed the practical skills exam 90 days after taking an instructor-led CPR/AED class, and that 90% failed the practical skills exam 12-months after the class.<sup>5</sup>



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### **Emergencies you might encounter**

Reasons why 911 is called

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	Severe Bleeding	Unconsciousness	CPR	Rescue Breathing Children & Infants	AED Application	Trouble Breathing	Opiate Overdoses
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	Hypothermia	Seizures	Choking	Impaled Objects	Amputations	Allergic Reactions	Confusion
	Ø						
	Stings	Pain	Trapped Limbs	Burns	Fractures & Sprains	Diabetic Problems	Chest Pain
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## SINCE 2013, THERE HAVE BEEN OVER 300 SCHOOL SHOOTINGS IN AMERICA





Engaging the lay rescuer

### **Use What Works**

- Out of hospital cardiac arrest survival rates are astronomically improved with bystander AED and CPR
- How else can we engage a lay rescuer to help?



### **Engaging the Bystander**

It is not what you might think

## What prevents someone from Getting involved?

<b>"I don't know</b> what to do."		66	"I'm afraid I will do more damage than good."			"What if I get sued?"				
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# I am a trained/professional first responder or medical professional. Why is this important to me?

### **Trained Responders**

Best Case - A trained first responder is assessing the patient under 60 seconds.

**Fact Check** – Being the first to respond is a matter of circumstance and timing. Well over 60% of response to sudden illness or injury are from co-workers, teachers, faculty, family, child-care and strangers.



### **Trained responders**

Best Case – Everyone gets training to be a responder, so all can be rescuers.

**Fact Check** - #1 reason a lay rescuer (non-professional) is reluctant to get involved is not knowing what to do. First Aid training fades over time and makes lay rescuers less confident to help.



### **CPR/AED** Training

How safe is your organization 12 months later?

#### **TRAINING FADES QUICKLY**

THREE MONTHS



ONLY

33%

#### PASSED A SKILLS EXAM AFTER 12 MONTHS

**RETAIN TRAINING AFTER** 

In a survey of CPR studies, investigators found that 67% of participants failed a practical skills exam 90 days after taking an instructor-led CPR/AED class, and that 90% failed the practical skills exam 12 months after the class.<sup>5</sup>

Training fades: 6 AED Challenge web site, www.aedchallenge.com/articles/cprskilldecline.php. Accessed June 25, 2020.



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### **Untrained Responders**

#### **Basic CPR and First Aid**

- People don't get involved because others are around.
- They could help too, so I'm not getting involved.





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### **Untrained Responders**

- "Bystander Effect"
- Overcome by providing:
  - Training
  - Equipment
  - Empowerment





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### **Building a Response Plan**

#### Empowering lay rescuers and addressing priorities

### Triage

- What are the priorities?
- Can a lay rescuer know what to do next?
- How could a system use an untrained rescuer to prioritize and treat emergencies?
- Can skills needed be taught with just-in-time instruction?





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Principle of design

# MARCHE



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Principle of design

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Principle of design



Principle of design



Engagement of the lay rescuer



### **Equipment for Rescuers**

#### Priority response paired with empowered attitude

Principle of design

MARCHE	Massive bleeding Tourniquets Hemostatic dressings Pressure dressings Direct pressure
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Principle of design

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MARCHE	Airway/Respiratory/Circulation Opening airway CPR/AED Choking Chest pain Shortness of breath Allergic reactions Opiate overdose
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Principle of design



### **Emergency Action Plans**

Create a system for responders to supplement emergency actions plans (EAPs)

### **Emergency Action Plans**



### Questions