

Institute of Medicine

Panel #2:

Community Response

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Consider this scenario

- A 65 year old man is visiting Chicago, walking down Michigan Avenue with his family
- He suddenly collapses and is in sudden cardiac arrest
- Who has the best chance of saving his life?
 - A. A health care professional walking by
 - B. The paramedic who comes by ambulance in 5 minutes
 - C. The ER doctor-nurse team at the nearby hospital
 - D. The cardiologist at the nearby hospital
 - E. The salesperson at the business across the sidewalk



The earliest rescuer = the best rescuer

- Who has the best chance of saving his life?
 - A. A doctor who might be walking by
 - What are the chances of this?
 - B. The paramedic who comes by ambulance in 5 minutes
 - 5 minutes in SCA is a LONG time
 - C. The ER doctor/nurse team at the nearby hospital
 - 15 minutes in SCA is a LONG time
 - D. The cardiologist at the nearby hospital
 - 25 minutes in SCA is a LONG time
 - E. The salesperson at the business across the sidewalk**
 - If this person has CPR-AED skills, a life can be saved**



Why the general public matters in SCA

No other emergent medical condition
depends more on bystander action than
sudden cardiac arrest



How does bystander action affect deadly emergencies?

- Myocardial infarction → Aspirin
- Pulmonary embolism → ???
- Motor vehicle collision → Hold pressure
- Gunshot wound → Hold pressure
- Pneumothorax → ???
- Septic shock → ???
- GI bleeding → ???
- Stroke → ???
- **Cardiac arrest → CPR+AED = 2.5x survival**



SCA survival

Graph reference

<http://www.webmm.ahrq.gov/case.aspx?caseID=155>



Let's assume average ambulance response time = 5 min

Graph reference

<http://www.webmm.ahrq.gov/case.aspx?caseID=155>

Ambulance response time



Bystanders are present during the most precious minutes of SCA

Graph reference

<http://www.webmm.ahrq.gov/case.aspx?caseID=155>



Bystanders affect SCA more than health care professionals do

Graph reference

<http://www.webmm.ahrq.gov/case.aspx?caseID=155>



3-step plan for public training

1. **DEFINE** sudden cardiac arrest
 - a. Differentiate SCA from “heart attack”
 - b. Indicate the importance of bystander action
2. **TEACH** CPR and AED use
 - a. Awareness
 - b. Training
3. **PROTECT** rescuers
 - a. Push for national Good Samaritan protections



DEFINE:

Relate CPR-AED to the Heimlich

- Make CPR/AEDs as familiar as Heimlich
- Make SCA as familiar as choking
- Stay away from comparisons to heart attack
(CPR-AED is not the same as giving aspirin)



TEACH:

Ideal platforms for training/awareness

- Schools (junior high, high)
- Employee orientations
- Doctor's offices
- Mass gatherings/events
- Religious institutions



TEACH:

Awareness vs. Training

ADVANTAGES OF AWARENESS

- More easily disseminated
 - Online
 - Mass media
- Fewer resources required
- May be enough to educate mass populations
- May be the only way to educate non-English speakers

ADVANTAGES OF TRAINING

- May improve CPR quality
- Survival may increase more than awareness
- Protected by most Good Samaritan laws



TEACH: Measuring effectiveness

- Educational effectiveness = do bystanders learn/remember what we teach them?
 - YES, with online training
 - YES, with ultrabrief video self-instruction
 - Short, frequent messages are probably more effective than infrequent multi-hour trainings
- Clinical effectiveness = does bystander CPR actually increase?
 - EMS must track this as part of standard data collection
 - Illinois Heart Rescue (Medtronic, Dr. Vandenhoeck and Dr. Del Rios) is doing this in Illinois



PROTECT: Good Samaritan protections

- Not uniform across 50 states
- Do *you* know what protections *your* state offers?
 - What are the chances the average rescuer knows?
- HR 1733 (introduced April 2013): protects health care professionals in a volunteer environment
- **We need a bystander-focused, national Good Samaritan law**



SUMMARY:

Important points for community response

- Bystanders affect survival more than health care professionals
- 3-step plan: Define, Teach, Protect
 - DEFINE = Establish cardiac arrest as distinct from heart attack and treatable by bystanders
 - TEACH = Promote CPR-AED awareness and training
 - PROTECT = Push for a national Good Samaritan law

