

Prescription CPR: Saving Lives in your Family and Community

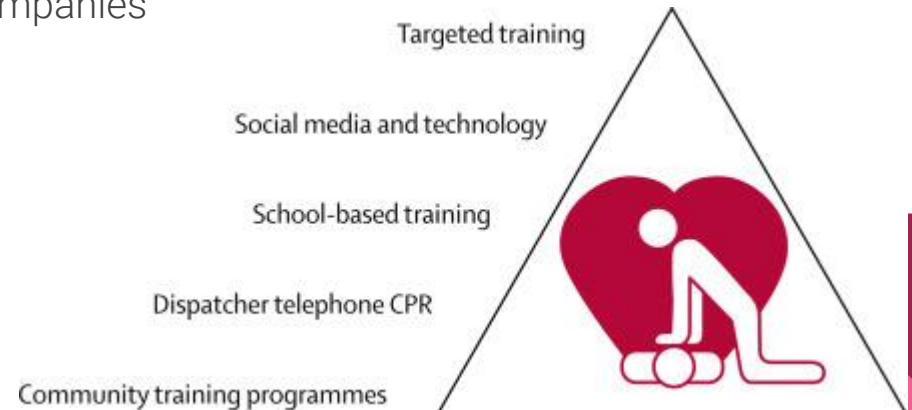
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Prescription CPR Goals

- Improve out of hospital CPR rates among at risk population*
- Improve average medical literacy and culture surrounding CPR*
- Improve accessibility of AEDs*

- Increase school outreach and train lower risk individuals
 - a. Create age appropriate curricula to teach about 911, CPR, first aid, and EMS
 - b. Train low risk people in hands only CPR who work in public space
- Partner with public buildings and private companies
 - a. AED database
 - b. CPR training

*Primary Goals



Background

- 350,000 people have cardiac arrest a day¹
 - National survival from cardiac arrest: 8-10%¹
 - MA: 3-4%; Worcester: 3%
- Out of hospital cardiac arrest is not a reportable disease in MA, impacts ability to track it
- Every minute without CPR decreases risk of survival from sudden cardiac arrest by 10%²
- Bystander CPR increases survival by a factor of 2-3¹⁰



Definition of Target Population

Patients at high risk for sudden cardiac arrest (SCA) and their families

What makes a patient high risk?

- Physical Characteristics
 - >50 Y/O, Hypercholesterolemia, Hyperlipidemia, Diabetic, PMH or FH of CAD, arrhythmia, cardiomyopathy or SCA, tobacco use, alcohol use
- Socioeconomic status
 - Incidence of cardiac arrest is highest in the lowest socioeconomic quartile⁴

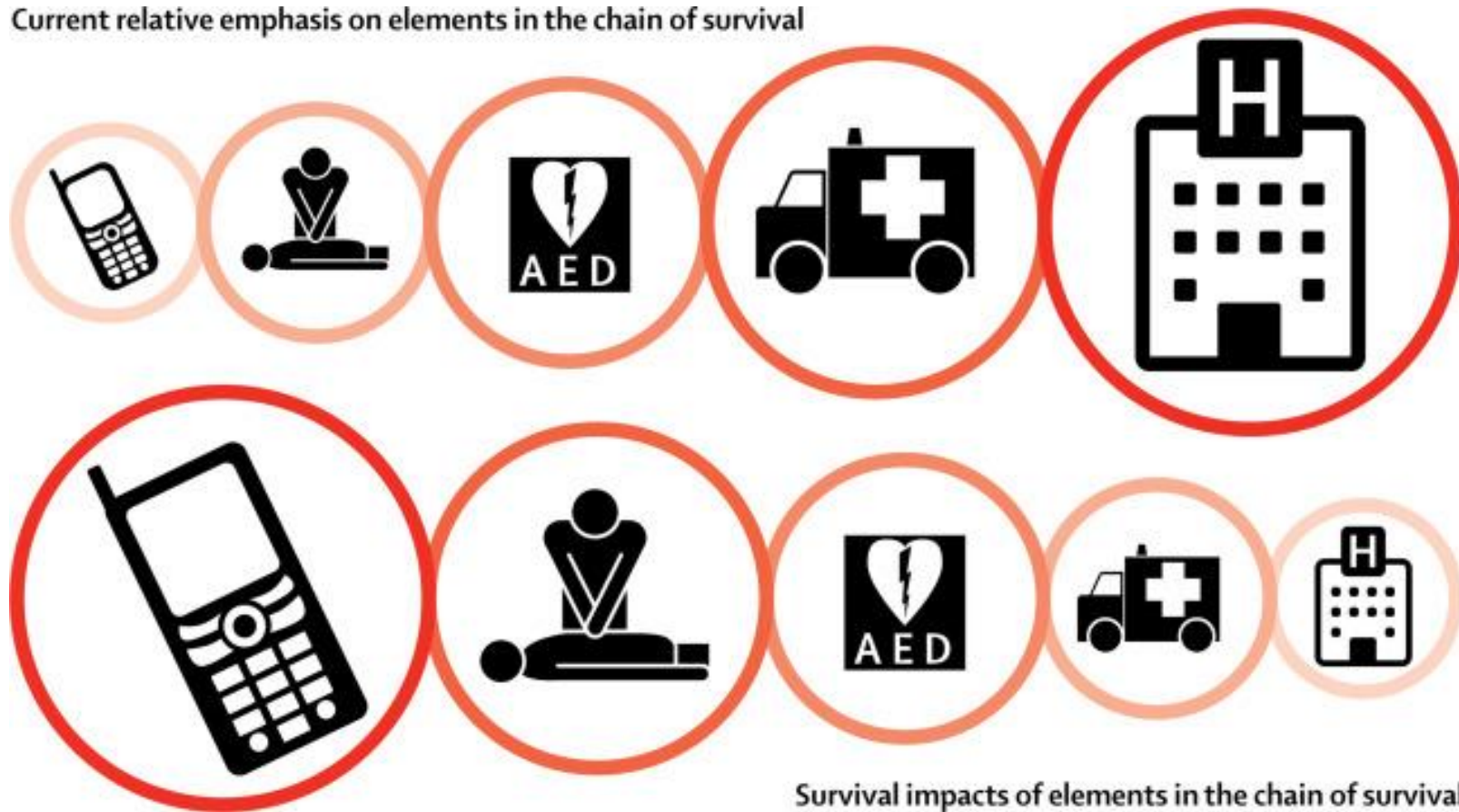


Hands Only CPR

- *Why hands only?*
 - Easier to teach
 - Easier to remember
 - **Bystanders more likely to perform**¹⁰
- *Goal:*
 - Keep patient's heart rhythm in ventricular fibrillation until EMS arrives
 - If patient enters asystole, chances of survival dramatically decrease
 - Circulate oxygen throughout body
 - The human body has enough oxygen to sustain itself for 7-9 minutes after patient stops breathing



Current relative emphasis on elements in the chain of survival



Survival impacts of elements in the chain of survival

Interprofessional Teams


- **PSAP** (Public Safety Answering Point)
 - Receives the distress call and dispatches emergency services
- **Police & Fire**
 - Sometimes first on scene - first contact with patient
- **EMS**
 - First advanced care patient receives
- **Hospitals**
 - Receive the patients. Provide ACLS
- **Advocates/educators (You)**
 - Widespread education and training in basic CPR
 - Advocacy for high risk groups
 - Changes in legislature



Population Health Advocacy: Strategies

- **Organizations:** American Heart Association, Red Cross, Institute of Medicine, CHOP
 - Mass State Law: Educators, Child Care Centers, Health Care Workers, Athletic Coaches
 - Limited population trained in CPR results in poor survival statistics
- **Major areas of advocacy:**
 - CHOP (UMass Cardiac Health Outreach Program)
 - Focuses on educating public and underserved areas in hands-only CPR
 - Integrating CPR training into MA school curriculum (Bill H.475, Patricia Haddad)
 - CPR training required in 38 states, but not MA⁵
 - 954,773 public school students⁶
 - MA Bill H.475 would make CPR/AED training a requirement for graduation⁷
 - Heart Safe Community: Worcester
 - Dr. Sabato working with local officials to make city a Heart Safe Community⁸
 - Institute of Medicine
 - Published set of 7 recommendations for improving CA survival including a national cardiac arrest registry⁹

Population Health Advocacy: Opportunities for Providers

- **Increasing numbers of training staff and increasing accessibility of hands-only CPR**
 - Having medical students be CPR trainers and teach non-clinical staff in hospitals and the greater Worcester community
 - Translating hands-only CPR materials into other languages to increase knowledge about CPR in communities that do not speak English as first language
 - Training people in community centers with shorter classes (compared to certification classes which are longer in length)
 - Identify populations that are high risk for sudden cardiac arrest through EHR (patients over 50, family history, previous history of MI, hypercholesterolemia, etc) and 'prescribe' hands-only CPR and AED usage training to their friends and family
 - **Advocacy in Legislation**
 - Increasing awareness about the flawed 911 dispatch system and petitioning for increased efficiency of transfer times in EMS dispatch systems
 - Creating legislation to increase signage awareness of AEDs
 - Creating an AED registry
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Service and Experiential Learning

- Active Community Engagement
 - Training sessions in Worcester community
 - St. Anne's Free Clinic
 - Worcester Adult Learning Center
 - Worcester Head Start
 - 911 Dispatch Center Shadowing
 - Visit to Southborough Fire Department
- Issues Identified
 - Massachusetts OHCA survival rate - 4%
 - Lack of willingness for bystander intervention
 - Lack of awareness on CPR best practices



Service and Experiential Learning

- Primary Takeaways
 - Effectiveness of hands-only CPR training vs. traditional courses
 - Level of community involvement
 - Importance of “Prescription CPR” as preventative medicine
 - At-risk family members
 - General population
 - Advocacy for proper patient education



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References

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