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 day\(^1\)
  - 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 2-3\(^{10}\)
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 quartile\(^4\)
Hands Only CPR

- **Why hands only?**
  - Easier to teach
  - Easier to remember
  - **Bystanders more likely to perform**

- **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 MA
    - 954,773 public school students
    - MA Bill H.475 would make CPR/AED training a requirement for graduation
  - Heart Safe Community: Worcester
    - Dr. Sabato working with local officials to make city a Heart Safe Community
  - Institute of Medicine
    - Published set of 7 recommendations for improving CA survival including a national cardiac arrest registry
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
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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