

TAKE HEART AMERICA™: A COMMUNITY-BASED SUDDEN CARDIAC ARREST SURVIVAL INITIATIVE IS SAVING LIVES BY IMPLEMENTING THE MOST HIGHLY RECOMMENDED 2005 AMERICAN HEART ASSOCIATION RESUSCITATION GUIDELINES

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Introduction: Take Heart America (THA) is a community-based initiative intended to improve survival from sudden, out-of-hospital cardiac arrest (OHCA) in four US communities: St. Cloud (MN), Anoka County (MN), Columbus (OH) and Austin (TX).

Hypothesis: Implementing a continuum of resuscitation care that includes the most highly recommended 2005 AHA resuscitation guidelines will improve survival from OHCA.

Methods: In Phase I, the two MN sites (population: greater St. Cloud: ~160K; Anoka Co: ~320K) implemented: a) widespread CPR training in schools and businesses; b) retraining of all EMS personnel in methods to enhance circulation including minimizing CPR interruptions, performing CPR prior to and after single shock defibrillation, and use of an impedance threshold device; c) more widespread deployment of AEDs in schools and public places; and d) transport to and treatment by Level One Cardiac Arrest Centers that provide: therapeutic hypothermia (applied to all comatose patients regardless of initial arrest rhythm), coronary artery evaluation and treatment, and widespread electrophysiological evaluation. During Phase II, Austin and Columbus will implement these same steps. A Standard Chi-Square analysis was performed.

Results: From 2006-2007 in the two MN sites, >12,000 people were trained in CPR, bystander CPR rates increased by ~5%, three Level One Cardiac Arrest Centers were established, and interventions a-d above were fully implemented. Survival in all patients following OHCA improved from 9.3% (14/151) in 2005 (historical control) to 17% (31/181) (P=0.0373) in 2007 in these two sites.

Conclusion: In conclusion, when OHCA patients were treated with a continuum of prehospital and in-hospital interventions intended to optimize defibrillation and circulation during CPR, and preserve heart and brain function following cardiac arrest, survival rates nearly doubled when compared to historical controls. The THA initiative is effective in mid-size communities, but regular retraining of EMS personnel is needed to assure full implementation of the key aspects of the program. Phase II is underway to determine if the program can be successfully implemented with similar positive results in communities with populations of 500-1000K.