RACE CARS

Regional Approach to CV Emergencies
Cardiac Arrest Resuscitation System

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OOHCA

OUT OF HOSPITAL CARDIAC ARREST

- **NC survival rate < 5%**
- **Only 1 in 4 received bystander CPR**
- **1% received an AED**

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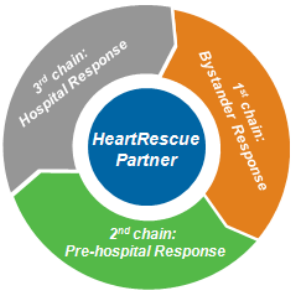
An Overlooked Cause of Death

As the third leading cause of death, cardiac arrest claims 300,000 Americans lives each year. If witnessed, recognized and treated with cardiopulmonary resuscitation (CPR), external defibrillation, and hospital post-arrest care, almost half of victims can survive and return to functional lives. Unfortunately, we currently fall well short of this goal in North Carolina, with only 1 in 5 victims receiving bystander CPR, and only 1 in 20 surviving to hospital discharge. Supported by the Medtronic Foundation HeartRescue Project, North Carolina's RACE CARS Project, and hospitals and emergency medical systems throughout the state will work to double survival from cardiac arrest within 5 years.



Good Samaritan Laws

Good Samaritan laws can protect those who help a victim. These laws are intended to reduce a bystander's hesitation to act for fear of being prosecuted for unintentional injury. These laws vary by area, but there are three elements that make up the Good Samaritan doctrine: (1) the care given was performed as the result of the emergency, (2) the initial emergency was not caused by the person providing assistance, and (3) the care was not given in a grossly negligent or reckless manner.

By-Stander Action

The critical first step is recognizing out-of-hospital cardiac arrest (OOHCA) and reacting appropriately. Most Americans are aware that they are expected to activate the EMS system in an emergency and are more than willing to dial 911. Taking the next step to actively intervene is challenging. Nationwide, only about 25-30 percent of OOHCA victims receive any CPR prior to the arrival of a 911 responder, and only 2.1 percent receive the benefit of public access defibrillation. The reasons for inaction are complex and may include lack of knowledge about what cardiac arrest looks like, a sense of incompetence in performing life-saving actions, a diffusion of responsibility when multiple potential rescuers are present, fear of hurting the victim, and concern about exposure to legal consequences.

Most know to call 9-1-1. Taking the next step to actively intervene is challenging.

Why AED's Are Needed

While EMS providers will bring a defibrillator to the scene, they may not always be able to reach the patient quickly enough. The cardiac arrest victim's chances of survival decrease by 5 to 10% with every passing minute between the beginning of VF and arrival of EMS. In most communities, the time interval between placing the phone call to 911 and arrival of EMS at the side of the victim is 7 minutes or longer. If you do the math, you can easily see why so many victims die. Help simply did not arrive in time.

Because early defibrillation can be lifesaving, defibrillators have been designed for use by the public. Anyone can successfully save lives with use of an AED simply by following the voice prompts from the machine. AEDs can be found in many locations in your community including grocery stores, airports, shopping malls, and public buildings. The devices are most useful if they are conspicuously placed in the open.

AED's are most useful if they are conspicuously placed in the open, like fire extinguishers.

Registration of AED's

Any AEDs placed in a community should be reported to the local EMS system, regardless of lack of a requirement to do so. By placing an AED in your community, you are partnering with your EMS agency. That agency can provide you with guidance on checking your battery, exchanging your pads, and other questions as needed. As 911 dispatch systems continue to evolve, technology will allow dispatchers to direct bystanders to a nearby AED while waiting for EMS to arrive. This approach only works if

Collecting Data For A Registry

The first step is to begin methodically collecting a minimum set of OOHCA data in a registry to measure survival rates and system characteristics related to OOHCA response. Tracking the performance of the EMS system and the victim's outcome requires the EMS agency to collaborate with receiving hospitals to obtain information about survival to hospital discharge for each case. When the information is used for quality improvement measures, hospitals should enthusiastically provide outcome information to the EMS system on an ongoing basis.

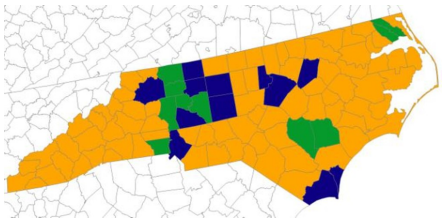
CARES: Integrates data from dispatch through hospital discharge

The CARES Registry

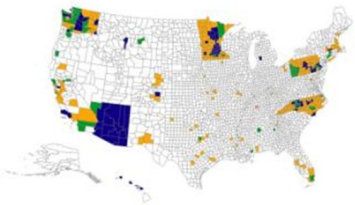
CARES created the first database to contain integrated information from EMS dispatch to hospital discharge for victims of OOHCA. The information system is driven by EMS agencies entering data into the system regarding dispatch, pre-arrival care, procedures performed and outcome from EMS care. For those patients that survive to the hospital the receiving facility is asked to input patient procedures and outcome data. In some patient this requires tracking to a tertiary hospital for final outcome information. Using the Utstein style of statistics for OOHCA, **CARES** is capable of identifying and tracking all cases of cardiac arrest in a defined geographic area.

CARES continued

The ultimate goals of **CARES** is to help local EMS administrators and medical directors identify who is affected, when and where cardiac arrest events occur, which elements of the system are functioning properly and which elements are not, and how changes can be made to improve cardiac arrest outcomes.



CARES Coverage in NC



CARES Coverage in the US

There is no cost to join the CARES registry. Data entry time is as quick as 15 minutes for EMS and 5 minutes for hospitals per case once you become familiar with the screens.

Blue are active

Green are in process

Orange are future sites

HeartRescue PROJECT

RACE
Cardiac Arrest Resuscitation System

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The Regional Approach to Cardiovascular Emergencies (RACE) project is a North Carolina statewide system for providing rapid coordinated care of cardiovascular emergencies. Established in 2003, the RACE system incorporates quality improvement efforts of over 119 hospitals, 540 emergency medical agencies and thousands of health care professionals working in a coordinated manner to provide timely and lifesaving care. Initially, the RACE system was developed to treat acute myocardial infarction. With an eventual goal to rapidly coordinate the treatment of all cardiovascular emergencies, our current phase called RACE CARS (Cardiac Arrest Resuscitation System) is focusing on out of hospital cardiac arrest.

HELP US SAVE LIVEs IN NC!

Reference: HeartRescue Community Response Planning Guide for SCA

AHA Mission: Lifeline OOHCA Program

On Tuesday the AHA's Mission: Lifeline launched a program to enhance the system of care for out of hospital cardiac arrest. It is very similar in structure to the Mission: Lifeline STEMI system of care program that we know. This program, known as Cardiac Resuscitation Systems of Care, includes EMS, referral centers, and receiving centers. In addition, there will be a large community component. This should be a nice compliment to the programs that we already participate in, including the CARES Registry, RACE-CARS, and Heart Rescue.

Eventually this project will have a Recognition program and perhaps even Certification programs comparable to the M:LL STEMI structure. Right now it is at the engagement phase, and the data infrastructure for metrics is also in development.

Here's the main website: http://www.heart.org/HEARTORG/HealthcareResearch/MissionLifelineHomePage/LearnAboutMissionLifeline/STEMI-and-Cardiac-Resuscitation-Systems-of-Care_UCM_439066_SubHomePage.jsp

Links to the Systems page, the EMS page, the Referral Center page, and the Receiving Center page can be found toward the bottom of the main page.

Dr. Lee Garvey

NC Mission Lifeline Co-Chair
National ECC Committee Chair

Carolina's Medical Center

The first step top participation in the program is to register your system.

MISSION: LIFELINE

American Heart Association.