HeartRescue and MRC Toolkit
HEARTRESCUE PROJECT & MN RESUSCITATION CONSORTIUM TOOLKIT

This information is free to EMS agencies interested in participating or promoting the goals of the Heart Rescue Project. The materials have been developed by the Medtronic Foundation and Heart Rescue partners around the country. A toolkit has been developed by Heart Rescue and is available on their website or by contacting your local HeartRescue partner.
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Leading Resuscitation Experts Collaborate to Improve SCA Survival Rates

The HeartRescue Project is focused on developing and expanding SCA response systems by coordinating measurement, education, training and the application of evidence-based best practices among the general public, first responders, emergency medical services (EMS) and hospitals.

Vision

Every American who suffers sudden cardiac arrest (SCA) will receive lifesaving, state-of-the-art care at the scene, en route and in the hospital.

The HeartRescue Partners

The HeartRescue Project has assembled organizations renowned for their resuscitation excellence who are charged with implementing programs in specific geographies. The lead Partners include:

- **Arizona**: University of Arizona Sarver Heart Center, Arizona Department of Health Services SHARE Program
- **Minnesota**: University of Minnesota, Cardiovascular Division, The Minnesota Resuscitation Consortium
- **North Carolina**: Duke University Medical Center, Wake County EMS, North Carolina Office of EMS, University of North Carolina
- **Pennsylvania**: University of Pennsylvania Center for Resuscitation Science
- **Washington**: University of Washington Harborview Medical Center, Seattle and King County EMS
- **National Partner**: AMR Medicine/EMSC Foundation, largest EMS organization in the United States covering 2,000 communities in 39 states
- **Ohio State**: Providing medical direction for the HeartRescue Project and Medtronic Foundation

Project Goal

Improve SCA survival rates by 50 percent over five years within the funded partner geographies.
About HeartRescue

Initiated and funded by the Medtronic Foundation, the HeartRescue project is designed to improve how SCA is recognized, treated and measured in the United States.

What is the role of HeartRescue partners?

The HeartRescue Project begins with a shared belief that SCA is a treatable condition. Working in select geographies, HeartRescue Partners and their partner agencies will work to improve SCA survival rates by expanding and replicating successful city and county out-of-hospital cardiac arrest response programs to statewide levels. Within their geographies, Partners will:

- Develop an integrated community response to SCA
- Coordinate public and professional education and training efforts
- Introduce and apply best-practice treatments to the general public, first responders (police/fire), emergency medical services (EMS) and hospitals
- Implement a common, systemic method of measuring performance and outcomes of SCA

What makes the HeartRescue Project unique?

The HeartRescue Project approach builds on decades of best practices at the bystander, prehospital and hospital level, combining them under one program in order to expand geographic reach. Key elements include:

- Publicly stated/measurable goals (a 50-percent increase in survival rates over five years in funded geographies)
- A common set of data elements used to measure performance and outcomes
- State-based reach, to include every size of community
- Highly collaborative environment, bringing together leaders, influencers, and hundreds of stakeholders in each state
- A focus on incremental system quality improvement via demonstrable, data-driven evidence
- A commitment to sharing information and publishing results

Why is measurement essential to success?

Measurement of results is an essential element of the HeartRescue Project. A system can implement all the best practices in the world, but we won't know it is working unless performance and outcomes including survival rates are measured. We can also gain better perspectives on SCA prevalence.

- Currently, there are no national standards for SCA performance and outcomes. HeartRescue Partners are utilizing the CARES registry as a common set of data elements used to measure performance and outcomes. More information on OHCA (out-of-hospital cardiac arrest) data collection can be found here.
There are an estimated 382,800 OHCA events treated by EMS in the United States each year.\(^1\)

The best survival statistics available today indicate that in communities that measure their survival rates, roughly 10% of OHCA victims survive\(^2\); this is known as the “overall” survival rate.

Survival in communities that are not measuring is likely half of that rate. Because only a handful of communities currently measure SCA survival\(^2,^3\) across most of the United States, the national overall survival rate is likely much less than 10%.

Survival for EMS treated, bystander witnessed, ventricular fibrillation (VF) OHCA in the US is around 30% in communities that measure.

Patients who present in ventricular fibrillation, particularly those who are EMS-treated, bystander-witnessed, and in ventricular fibrillation have the best chance of survival among all cardiac arrest victims. Survival rates for this group of SCA victims often serve as a sentinel measure for the effectiveness of a community's system of care.

There is wide variability in EMS-treated, bystander witnessed, VF OHCA survival rates across the country, ranging from 7.7% to 39.9\(^3\).

**What if my community does not have the resources to implement a successful SCA response program?**

While every community has a unique set of circumstances that may not allow for the commitment of resources that top-performing systems may have, similar results can be achieved.

Focusing on best practices does not mean cookie-cutter solutions. Incremental steps can be taken, starting with a number of possibilities including:

- Measuring OHCA at the basic level (e.g. ventricular fibrillation witnessed arrests)
- Improving CPR at the EMS level (e.g., implementing high performance CPR education at the EMT level)
- Implementing public-based CPR/AED education programs
- Providing 911 dispatchers with SCA recognition training and bystander CPR instructions

**What is the role of community leaders in improving SCA response?**

It should be no surprise that any community SCA response effort needs visionary leaders committed to system improvement. Any efforts should start by gaining buy-in and enthusiasm from top community leaders. Leaders fulfill the following functions:

- Motivate and educate other key leaders
- Set strategic goals for activities to be undertaken
- Align efforts within the organization to achieve those goals
- Provide resources for the creation, spread, and sustainability of effective systems
- Remove obstacles to improvements for clinicians and staff
- Require adherence to known practices that will promote patient safety
How do SCA survival rates reflect the overall effectiveness of an EMS system?

There is a correlation between the overall performance of an EMS system and SCA survival rates.

- The attributes of collaboration and measurement which contribute to good SCA outcomes also contribute to better EMS care in general
- Collaboration that’s required to improve SCA survival rates means connections between pre-hospital and hospital are strong, which has positive implications for the entire system
- Undertaking an effort to improve SCA outcomes can have a positive effect on the entire EMS system, in terms of building relationships, cultural changes, and an emphasis on performance and quality improvement

Save a Life Simulator

Recently a national campaign was launched by the HeartRescue Project designed to save lives from SCA by getting the public involved.

The PSA directs people to a novel, interactive, online tool called the Save-a-Life-Simulator to promote proper and timely bystander response to sudden cardiac arrest (SCA).

www.heartrescuenow.com

Why? In addition to helping support the outreach efforts of the six HeartRescue Partners in their geographies, the Heart Rescue project is responding to one of the deadliest conditions in this country. SCA strikes nearly 400,000 Americans each year without warning, killing more than breast, lung, colon and prostate cancer combined...and the incidence rate is more than 130 percent higher than previously believed just four years ago (AHA 2012 Heart and Stroke Update).

On average, 9 out of 10 people who suffer sudden cardiac arrest don't survive. The good news is, when someone helps and reacts to SCA, the chance of survival doubles. Given these stats, it's now more important than ever to provide an engaging and informative way to teach people how to respond.

Initiated and funded by the Medtronic Foundation, the HeartRescue Project assembles the country’s leading emergency and resuscitation experts. The Save-a-Life-Simulator was created with direct input from these partners, including HeartRescue medical director Dr. Michael Sayre, Associate Professor, Department of Emergency Medicine, The Ohio State University and Dr. Ben Bobrow, Medical Director, Arizona Department of Health Services, Associate Professor, Department of Emergency Medicine Maricopa Medical Center, Phoenix, Arizona.

In fact, it was Dr. Bobrow's research on the value of 60-second CPR training that was the inspiration for the campaign. In Arizona, the total number of survivors has shown a 3-fold increase...from 155 in 2004-2005 to 571 in 2009-2010...in large part due to increased bystander action.
Please take a few moments to explore the site and simulator experience ...and be sure to forward the link (www.heartrescuenow.com) on to families and friends. And of course, be ready to save a life!

References

Year One

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Organization

A key task of developing the consortium was creating various teams to accomplish the goals of the grant and to develop additional goals based on recognized needs in MN communities or agencies. These teams were established to lead three focus areas: Bystander Response, Pre-hospital Response, and Hospital Response.

Goals achieved in 2011–2012 fiscal year:

1) In 2011, we developed teams of citizen leaders, community leaders, emergency care professionals, and physicians to work on ongoing projects in community, Emergency Medical Services and hospital response levels. These groups meet periodically to strategically plan accomplishments of the goals in each response level and their specific regions.

2) Dr. Yannopoulos was asked to represent the MRC on the Minnesota Heart Disease and Stroke Prevention Steering Committee through the MN Department of Health. This team will work on specific objectives and tactics to accomplish the Minnesota Heart Disease and Stroke Prevention Plan 2011–2020. Initial efforts for the MRC have been in developing a tool to share with businesses regarding CPR and AED training that is shared through the Department of Health support of The Presidents Network, a team effort to bring business executives from all regions of MN tools regarding health and wellness programs.

3) Expansion of CARES from Hennepin County to seven county metro area and into greater MN. Several services had been entering since 2010, for Hennepin County, but were unable to expand to their entire service area. The MRC has worked with these agencies to extend their data entry and to increase the number of cardiac arrests reported in MN in the CARES database. This baseline data will serve as a tool for further development of goals and objectives.

Summary of new projects, programs, collaborations, innovations:

- The MRC has participated in several entire school training events at the middle and high school level. These events, often the partnership of many groups both statewide and community based, have brought training and awareness to groups of 300 plus during only one to two hours of school time. This method of sharing CPR training is effective and easy to replicate and it is our goal to share this across MN.
- The MRC is working with Hennepin County Emergency Medical Service Council Quality Committee to assist in efforts to increase access to rapid 911 Dispatch Assisted CPR instructions. This collaboration will help determine the best path for extending efforts in greater MN.
- The MRC is working toward a partnership with the Emergency Medical Services Regulatory Board to share information statewide through already established regions and teams in those regions. There is potential for data collection collaboration to streamline the process and increase compliance throughout MN.
- The MRC has worked with American Heart Association, American Red Cross, and MN Sudden Cardiac Arrest Survivors Network on legislative efforts to require CPR training in schools and to establish an AED registry. The MRC has partnered with outside agencies to develop and implement a CPR Registry and an AED Registry specifically for MN.
HeartRescue Project and MN Resuscitation Consortium

Goals for 2012:
1. Create a statewide recognizable AED logo for locations equipped with an AED and provide area dispatch with AED locations in their community.
2. Extend efforts to improve Dispatch Assisted CPR to greater MN with a Dispatch Academy.
3. Hold a Resuscitation Academy to encourage statewide stakeholders, physicians and EMS providers ways to implement MRC efforts to increase survival in their communities.
5. Expand CARES data to greater MN.

Goal Score Card
Committees and Projects

Bystander Response

Bystander Committee Goals

- Partnering with existing groups and programs, the MRC will support awareness and training for CPR and AEDs
- The Minnesota Survivors Network and AHA training groups will assist in leading this effort to train 10% of Minnesota residents
- Emphasis on training in schools, workplaces and special events
- Broadly and strategically placing AEDs, with program partnerships to assist in rapid locating and deployment

The bystander committee has had great participation from all groups and is moving forward on several projects. Including:

1. Standardized care and training tools.
2. School curriculum suggestions
3. Training outlines and media tools
4. Website for instructor tools
5. Standardized AED logo

Governor Dayton signs CPR Bill into law!
MN is one of two states that were successful.
19 states attempted without success.
The MRC has developed a Bystander CPR Registry to track non certification trainings. This has been utilized by many of our partners and not only allows us the ability to track training numbers, but also by agency, county and individuals. This registry provides a tools for communication to community advocates to ensure new information and training tools are available.

The MRC has also worked with Atrus to develop the MN AED Registry. This tool will provide AED owners with reminders and support for their AED management, as well as provide us with data on AED locations throughout the state.

Multiple website tools have been developed to assist individuals with the use of the registries and a MN CPR directory was developed to share training information at cprdirectory.webs.com.

To date, we have 12,130 trained in CPR and 511 AEDs registered. Trainings have created partnerships with community initiatives, youth groups, U of M Spring Jam and the U of M Medical Response Corp. Future partnerships for training include the MN Zoo, U of M sporting events and the MN Heart Walk.

A significant amount of time was devoted to helping get the CPR bill into law. This is a big success for MN as many states tried and failed. Events included CPR training at the Capitol, testifying at both the House and Senate, and development of CPR in schools flyer and website.

Our partnership with MN Department of Health also created an opportunity to present and develop a flyer to promote CPR training in businesses.

The ‘Go Red’ event at the Mall of America provided training for over 100 people and awareness for many more. At this event, the ‘Be the Beat’ smart mob had their premier. We hope to use them for many more events.

Future goals include work on a training video and creating templates of implementing various aspects of CPR & AED programs and promotion. We also will be presenting at several survivor and EMS venues.

**Pre-Hospital Committee Goals**

The MRC will work with EMS medical directors and EMA education sites to develop and implement:

- Standardized guidelines for 911 dispatch assisted bystander CPR.
- Decreased EMS response times to SCA
- Improved quality of prehospital CPR with an evidence-based approach to quality of CPR and standardized practice throughout the state
- Develop statewide protocols for cardiac arrest management and transport
The Prehospital Response team has worked hard to come to a consensus on BLS protocols for cardiac arrest management. They added some innovative suggestions to ensure that it could be used across MN. The document will be shared with Greater MN and initiate good discussions around development of ALS protocol unification.

This team has also had in depth discussions and has future plans to work on 911 dispatch assisted CPR changes within the MN dispatch structure and development of tools to assist with EMS training on new unified protocols.

They will be key speakers at the upcoming Resuscitation Academy in June and help with the development of our ‘book’ that will be a strong way to share the project throughout MN.

The EMS medical directors have also been key in the development of the ‘early access to cath lab’ project and will continue to help with implementation.

**Hospital Committee Goals**

The MRC, with a team of experts from Minnesota hospitals, will work together to develop best practices that will:

- Increase the percentage of SCA patients who receive hypothermia treatment in a level 1 resuscitation center, with a 24/7 team of specialized critical care decision-makers
- Increase the percentage of SCA victims who receive rapid angioplasty
- Increase the percentage of SCA survivors who receive implanted defibrillators

Bringing this team of doctors together was a serious undertaking, we now have cardiologists from hospitals around the metro area. These cardiologists are discussing the issues around implementation of the ‘early access to cath lab’ project. This undertaking will be a monumental challenge and require continued work as it progresses.

This team will also working to develop collaborative efforts around best practices, publications and educational symposiums to share tools to implement.

This team will also work on development tools for implementing various levels of care to hospitals throughout greater MN.
When MN took over CARES as part of the HeartRescue Project, we started with 5 ambulance services and 7 hospitals already enrolled as part of Hennepin County CARES community initiative. Since taking over in June 2011, we have brought on an additional 6 agencies and 14 hospitals. In 2010, 560 cases were entered into CARES and in 2011 we have entered 788 cases. For 2011, we have an impressive overall survival rate of approximately 15%, with our bystander witnessed/shockable rhythm survival rate at approximately 36.5%. Less impressive is our bystander CPR rate, which sits at 27%, which is about 10% lower than the national average reported for CARES.
Grants in MN

The purpose of the Minnesota Resuscitation Consortium is to work with the Medtronic Heart Rescue program and other statewide efforts to:

- Join forces to share best practices
- Expand proven programs state-wide
- Improve SCA measurement
- Connect levels of care for SCA patients
- Increase overall SCA survival by 50% over five years

Our plan to accomplish this is through the following efforts:

- Lay Public Education – increase the number of SCA victims who receive bystander CPR; provide training at schools, businesses and universities utilizing our active Survivors Network and other training groups; encourage the deployment of AEDs in public places to increase availability during an arrest.

- Data Collection – utilizing the CARES registry to capture specific epidemiological characteristics for cardiac arrest survival outcomes and therapies; centralize data collection and processing; and provide more effective and timely access to data.

- Prehospital Care – improve CPR/AED instructions from 911 dispatch on cardiac arrests; decrease EMS response times to SCA events; improve the quality of CPR and encourage common practice throughout the state.

- Hospital Care – increase the number of SCA patients who receive hypothermia treatment in a Level 1 Resuscitation Center; 24/7 team of specialized critical care decision-makers; and a shared approach to SCA management (rapid angioplasty and implanted defibrillators).

We give priority to projects that fit into the above plan and that:

- Foster collaboration among different community agencies, and City government.
- Reflect a comprehensive approach to SCA management.
- Promote collaboration between community efforts, EMS and hospitals.
- That support the start up or broaden the ability to provide data entry to CARES.
FOR IMMEDIATE RELEASE
Month, Day, Year

Media Contacts:
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Kim Harkins, MRC, 612-626-1382

(Company) Named Recipient of MN Resuscitation Consortium Grant

$XXX will help continue (Company/Organization’s) mission to increase sudden cardiac arrest survival rates in Minnesota.

City, MN – (Company/Organization) recently received a grant in the amount of $XXX from the MN Resuscitation Consortium (MRC).

The MN Resuscitation Consortium aims to increase survival rates of sudden cardiac arrest (SCA) by connecting bystander, pre-hospital, and hospital initiatives to establish and implement a set of protocols that incorporate the latest technologies and proven treatment methods.

The Consortium is part of the HeartRescue Project. Initiated in 2010 by the Medtronic Foundation, the HeartRescue Project assembles the country’s leading emergency and resuscitation experts to expand successful city and county SCA response programs to statewide levels. A primary objective of the program is to develop an integrated community response to SCA, ensuring everyone is prepared to respond by calling 911, starting chest compressions immediately and using an AED.

Commenting on the announcement, (John Doe) said, “This grant will continue the mission of (Company/Organization) by xyz.”

Demetris Yannopoulos, M.D., Medical Director for the MN Resuscitation Consortium explained further by stating, “Cardiac arrest care is a constantly changing process. There is new research and tools that can be utilized to improve outcomes. The work being done by our grant recipients will help to identify survival rates, best practices and new ideas that can help communities that are working to improve their level of care.”

About Sudden Cardiac Arrest (SCA)
Sudden cardiac arrest is a public health crisis during which the heart stops without warning. SCA is often caused by abnormalities of the heart’s electrical conduction system. Signs of SCA include unconsciousness and lack of breath. As the leading cause of death in the world, SCA strikes an estimated 295,000 Americans each year.

To learn more about SCA and the MN Resuscitation Consortium, please visit www.mrc.umn.edu

About the HeartRescue Project
The HeartRescue Project, funded by the Medtronic Foundation, aims to increase survival from out of hospital cardiac arrest by 50 percent over five years in select regions that include Minnesota, Arizona, Washington, Pennsylvania and North Carolina. Learn more at www.heartrescueproject.com.
Resources

www.mrc.umn.edu

www.heartrescueproject.com

www.heartrescuenow.com

www.heart.org

www.bethebeat.org
The Minnesota Resuscitation Academy is supported by: 
University of Minnesota Cardiovascular Division, 
Medtronic Foundation HeartRescue Project, 
MN Department of Health, 
MN Ambulance Association, 
MN Hospital Association 
In partnership with: 
Participating community initiatives, MN EMS and Hospitals