North Dakota

Cardiac Ready Community Designation

Guidelines

In rural North Dakota, there can be time delays before first responders can arrive at the scene in time to help cardiac arrest patients. Cardiac Ready Community designation works to improve several of the elements of cardiac care.

The North Dakota Division of EMS & Trauma has partnered with the American Heart Association to provide this program through the North Dakota Cardiac System of Care. The North Dakota Cardiac Ready Community program is designed to promote survival from a cardiac event, such as sudden cardiac arrest (SCA) which occurs outside of the hospital setting. The goal is to have a community prepared to respond and assist if an individual has a cardiac event. The Cardiac Ready Community program promotes the American Heart Association Chain of Survival, which can improve the chances of survival and recovery for victims of heart attack, stroke, and other emergencies. It is important for individuals to be able to recognize a cardiac emergency, know how to dial 9-1-1 to access first responders immediately, begin cardiopulmonary resuscitation (CPR), and have public access to Automated External Defibrillators (AEDs)

Five Links in the Chain of Survival

- Immediate recognition of cardiac arrest and activation of the emergency response system
- Early CPR with an emphasis on high quality chest compressions
- Rapid defibrillation
- Effective basic and advanced life support
- Integrated post-cardiac arrest care

The North Dakota Cardiac Ready Community Designation has a set of minimum criteria a community must achieve in order to receive the status. The criteria support the chain of survival, such as CPR instruction, public access to AEDs, hypertension screenings, and resuscitation protocols and transport plans for first responders and area hospitals. Communities which meet the established criteria can apply to become

designated as a North Dakota Cardiac Ready Community. If a community does not meet the established criteria, it can take steps to work towards designation.

How to Become a Cardiac Ready Community

Analyze Your Community's Situation- Every community is different, with unique challenges to forming a strong chain of survival. Review the common elements of being a Cardiac Ready Community and compare to what your community is currently working with. Decide what needs to be changed or strengthened in your community to improve the chain of survival. Some examples to consider include:

- Do major public gathering places or businesses in your community have AEDs available and staff trained in CPR?
- What is the response time of EMS in your community? Are there areas in which it is frequently prolonged?
- Does your community have a hospital? If not, where is the nearest hospital?
- What percentage of your population is trained in CPR?
- Does an organization in your community offer preventative screenings such as blood pressure screenings?
- What is the survival rate in your community from cardiac arrest?

Build a Support Team- Implementing a widespread change in the community requires support. This isn't possible without many parties committing to the cause. Public support is an important aspect of this program. Public support can be affected through media campaigns using social media, newspapers, and television stations. Events such as CPR trainings and survivor stories are often of interest to news stations and offer free publicity to spread your message. Your community should have a team responsible for leading and organizing what is needed to meet the designation criteria. Look to the following areas for representatives:

- City Council
- EMS, Fire, and Police
- Nurses
- Hospital/Clinic
- Public Health
- Elected Officials
- Dispatch or Public Safety Answering Point (PSAP)

- CPR Instructors
- Chamber of Commerce
- Public High School Administration
- Major Employers in the Community
- Survivors

Information Meeting- Once you build a community support team, contact Shila Thorson, ND State Stroke & Cardiac System Coordinator to arrange a meeting to discuss the criteria needed for your community to become a designated North Dakota Cardiac Ready Community. We realize that each community is different and has unique needs and challenges, so we would like the opportunity to sit down with your team to discuss your city's goals and what the specific criteria will be for your community. Shila can be contacted at smthorson@nd.gov or (701)328-4569.

Implement & Track Changes-Once your community understands the criteria you need to fulfill, you can begin to make changes to work towards becoming a Cardiac Ready Community. It is important for your planning team to keep record of what events you hosted, how many people participated, cardiac survival rates, and other data. We ask that you collect this data to assist in evaluating the effectiveness of the changes your community is making and use it to further focus your community's efforts. It will assist your community to see what is working and what isn't.

Designation-Once you feel your community has satisfied the criteria established with the North Dakota Department of Health, request designation. A representative from the ND Department of Health will assess whether or not your community has met the set criteria. Your community will receive either a designation as a North Dakota Cardiac Ready Community or feedback on areas for improvement before designation will be granted. North Dakota Cardiac Ready Community Designation will be valid for three years, at which time your community will need to renew the designation.

For Further Questions, Please Contact:

Shila Thorson

ND State Stroke Cardiac System Coordinator

701.328.4569 or smthorson@nd.gov

Community Leadership

Through group meetings of all stakeholders in a community (EMS providers, health care providers, hospital personnel, law enforcement, city/county officials, fire department, churches, schools, public health officials, civic groups, etc.) an organization should be selected to spearhead the Cardiac Ready Community effort. This group will ideally have an individual who becomes the "face" of the program in that community. This person is not "in charge" but is the coordinator of all stakeholders who want to see their community become a Cardiac Ready Community. Other groups and entities must still play their part to see the program succeed.

It is the goal of the Cardiac Ready Community program that a single organization leads the community effort with support from the entire population. This organization will be responsible for data collection and reporting on the Cardiac Ready efforts.

Community Leadership

	There is no coordinated effort to develop a Cardiac Ready Community effort	0
	Organizations are working independently to improve cardiac readiness within the community	1
	Several stakeholders have formed a coalition to develop a Cardiac Ready Community effort coordinating with EMS	2
	A lead organization (e.g. fire, police, ambulance, board of health) is designated to oversee the Cardiac Ready Community effort involving all stakeholders (EMS, hospital, health care providers) and community organizations (e.g. businesses, schools, churches). The lead organization will provide an annual report to the North Dakota Division of EMS & Trauma providing a review of progress for the program due on the anniversary of designation.	3
	A lead organization is designated to oversee the Cardiac Ready Community effort, has involvement from all sections of the community, is integrated into the EMS system, and has developed a strategic plan for sustainability of the program. The organization will hold an annual meeting to review the program's progress and provide an annual report to the North Dakota Division of EMS & Trauma providing a review of progress for the program due on the anniversary of designation.	4

Must achieve a minimum score of 3 in the category

On-Going Community Awareness Campaign

Most people wait two hours or more to seek medical assistance after experiencing symptoms of a heart attack. Further, countless people travel to the emergency room by privately owned vehicle. Both of these issues are contributing factors to the high mortality rate associated with heart attacks. Ideally, people experiencing symptoms, or those with someone experiencing symptoms, will dial 9-1-1 right away for care and transport to a hospital in an ambulance.

An ongoing community awareness campaign should not only include information on how a person can reduce their risk of having a heart attack, sudden cardiac arrest or stroke, but just as importantly what to do should it occur.

The program would also include the development and implementation of a system to track and evaluate the effectiveness of various marketing tools and methods.

While prevention is the preferred method of reducing the loss of life from a cardiovascular emergency, history has shown if the focus is on prevention alone you will have little impact on decreasing the incidence of sudden cardiac arrest.

It is the goal of the Cardiac Ready Communities program to improve community awareness of the signs and symptoms of a cardiovascular emergency (heart attack, stroke or sudden cardiac arrest) and to have citizens activate the 9-1-1 system in lieu of going to the hospital by a privately owned vehicle.

Community Awareness Campaign

	There is no awareness campaign	0
	The community is developing an Awareness Campaign specific to its needs and population that includes cardiovascular disease (CVD) prevention and initiating the chain of survival in case of a heart attack, cardiac arrest or stroke.	1
	The community has developed and implemented an Awareness Campaign focused around the Cardiac Ready Communities project that includes CVD prevention and initiating the chain of survival in case of a heart attack, cardiac arrest.	2
	The community awareness campaign has been implemented and evaluated for effectiveness. Changes to the program are ongoing based on data.	3

Must achieve a minimum score of 3 in this category

Community Blood Pressure Control Program

The leading risk factor for cardiac and a stroke event is high blood pressure (hypertension). Our state data reflects that these acute health events are occurring at an increasing level among our workforce age population set. 72% of all North Dakota stroke cases are identified with high blood pressure (HBP).

- 81% of ND strokes are under age 85, with 1/3 of those strokes under age 65.
- Only 1% of under age 85-ND hypertension cases were being treated prior to stroke for HBP
- 69% of Americans who have a first heart attack have blood pressure over 140/90.

High blood pressure causes microscopic tears in your arteries. Uncontrolled high blood pressure can also cause problems by damaging and narrowing the blood vessels in your brain. Over time, this raises the risk of a blood vessel becoming blocked or bursting. Knowing your numbers through **check**ing your blood pressure, **chang**ing your lifestyle with physical activity and healthy food choices, and **control** – working with your health provider, can impact the cardiac and stroke events within your community. Cardiac Ready Communities will be required to report the number of undiagnosed hypertension patients found in screenings and the number of patients that followed up with referral with a provider.

Health Professional Education on Blood Pressure Measurement and Algorithm

	No survey has been conducted of area health providers/BP screeners so level of measurement skills and current treatment algorithm are unknown	0
	Assessment completed, screening algorithm consensus in alignment with state recommendations	1
	Training plan developed and initiated to reinforce appropriate BP screening skills among providers	2
	Training plan developed and initiated to reinforce appropriate BP screening skills among community screening "mentors" – those engaged with community screening activities	3

Check. Community Awareness/Screenings

	No community-wide platform in place to support "know your numbers" and why	0
	Community workgroup in place to meet quarterly to develop and maintain a flow chart of HBP screening opportunities and shared/coordinated HBP screening within the community	1
	Combination of community and home screenings reaches 30% of the adult community	2
	Combination of community and home screenings reaches 40% of the adult community	3
	Combination of community and home screenings reaches 50% of the adult community	4

Change. Life style change initiatives actively promoted, utilized within the community (or adapt to percentages of those within the community blood pressure program)

	Little or no community awareness as to lifestyle changes helping to reduce or control blood pressure.	0
	A combination of community programs of physical activity or nutrition reaches 10% of adult population, with messaging addressing impact on blood pressure.	1
	A combination of community programs of physical activity or nutrition reaches 20% of adult population, with messaging addressing impact on blood pressure.	2
	A combination of community programs of physical activity or nutrition reaches 30% of adult population, with messaging addressing impact on blood pressure.	3
	Worksite wellness programs in place reaching 70% of the community workforce	4

Control. Those treated for hypertension are under medical provider care and controlling their blood pressure.

	No aggregate community measurement platform in place.	0
	Some measurement data available and shared with work team	1
	Referral/follow-up system in place for individuals implemented/evaluated annually	2

Minimum score of 8 from a combination of three sections

CPR & AED Training

There are several different CPR courses available through the American Heart Association and the American Red Cross. All provide valuable information for the general public. However, recent research has shown that for the average layperson, Hands-Only CPR (no rescue breathing) for teens and adults is just as effective and is more likely to be implemented in a cardiac emergency. Having law enforcement officers and fire fighters trained in high quality CPR as well as being equipped with an AED decreases the time from initial collapse to having a shock delivered to the heart.

The Cardiac Ready Communities Program promotes the cardiac chain of survival, which includes early recognition and initiation of CPR and does not differentiate between courses in which community members participate. Whichever course(s) is implemented should also include a section/module on the use of an AED to meet the other step in the chain of survival of having an electrical shock delivered to the heart within 3-5 minutes.

CPR Instructors

	There are no available CPR instructors to the community	0
	Instructors are unable to teach enough courses to meet needs/goals. Instructors may be burned out from too much teaching.	1
	Instructors are teaching regularly scheduled courses, but not enough to meet need/goal	2
	There are an adequate number of instructors to fill need and reach goals for CPR courses. Courses are offered at a variety of times and days and cover the range of course levels.	3
	There are enough instructors to have a regular schedule of CPR classes without overload. The community tracks numbers of courses and students as an ongoing performance improvement indicator.	4

CPR for the Layperson

	It is unknown what percent of the population is trained in CPR	0
	Less than 5% of population is trained in CPR	1
	10% of the population is trained in CPR	2
	25% of population is trained in CPR	3
	50% of population is trained in CPR	4

Law Enforcement AED/CPR

	No Law Enforcement Vehicles responding in the community are equipped with an AED and officers trained in CPR/AED	0
	Less than 25% of Law Enforcement Vehicles responding in a community are equipped with an AED and have officers trained in CPR/AED	1
	25% of Law Enforcement Vehicles are equipped with an AED and have officers trained in CPR/AED	2
	50% of Law Enforcement Vehicles are equipped with an AED and have officers trained in CPR/AED	3
	100% of Law Enforcement Vehicles are equipped with an AED and have officers trained in CPR/AED	4

Fire Department AED/CPR

	No FD Responder Vehicles responding in the community are equipped with an AED and officers trained in CPR/AED	0
	Less than 25% of FD Responder Vehicles responding in a community are equipped with an AED and have CPR/AED trained personnel	1
	25% of FD Responder Vehicles are equipped with an AED and have CPR/AED trained personnel	2
	50% of FD Responder Vehicles are equipped with an AED and have CPR/AED trained personnel	3
	100% of FD Responder Vehicles are equipped with an AED and have CPR/AED trained personnel	4

Business or Public Employee AED/CPR

	No businesses in the community have employees trained in CPR/AED	0
	Less than 25% of businesses in a community have CPR/AED trained personnel	1
	25% of businesses have CPR/AED trained personnel	2
	50% of businesses have CPR/AED trained personnel	3
	100% of businesses have CPR/AED trained personnel	4

EMS AED/CPR

	No EMS responding in the community with personnel trained in CPR/AED	0
	Less than 25% of EMS responding in a community have CPR/AED trained personnel	1
	25% of EMS have CPR/AED trained personnel	2
	50% of EMS have CPR/AED trained personnel	3
	100% of EMS have CPR/AED trained personnel	4

Minimum score of 12 from a combination of 5 categories

Public Access AED Location

The American Heart Association reports that sudden cardiac arrest victims who receive immediate CPR and an AED shock within three to five minutes have a much higher chance of surviving. As a part of the Cardiac Ready Community Program, public access AEDs should be deployed in target areas throughout the community. Consideration should be given to deploying AEDs so that a shock can be delivered within three to five minutes of the event occurring and members of the community are encouraged to use an AED when the need arises.

It is the goal of the Cardiac Ready Communities program to have communities assess the locations of the AEDs currently available, report those locations to 911 dispatching and the local ambulance service and to develop a plan to acquire and distribute additional AEDs to adequately cover their community. Cardiac Ready Communities also assure that AEDs are registered with the local EMS provider and regional 9-1-1 dispatch.

Public Access Assessment Plan

	There is no overall community plan to assess AED locations and needs	0
	Location of currently existing AEDs in the community is known	1
	A plan for assessing unmet AED needs and locations is being developed	2
	There is a developed plan to assess location and need of AEDs in the entire community	3
	There is a developed plan to assess dispersal and need of AEDs and a strategic plan for funding unmet needs is developed	4

Church, Public, & School Building Assessment

	No survey of AEDs in municipal buildings has been conducted and it unknown what percentage are covered	0
	Less than 25% of public & school buildings have an AED available	1
	At least 25% of public & school buildings have an AED available	2
	At least 50% of public & school buildings have an AED available	3
	At least 75% of public& school buildings have an AED available	4

Private Sector AED Assessment

	No survey of AEDs in the private sector has been conducted and it unknown what percentage are covered	0
	0-15% of private businesses have an AED available	1
	15-25% of private businesses have an AED available	2
	25-35% of private businesses have an AED available	3
	35-50% of private businesses have an AED available	4

Minimum score of 6 in a combination of 2 categories

EMS Dispatching Program

Every community is unique in how Emergency Services are delivered. 911 dispatching is a key element in this process. Communities that have enhanced 911 improve response by knowing where the call is originating from even without the caller telling them. Having dispatchers trained in how to help a caller assess a medical emergency and giving directions on what to do over the phone greatly improves the chance of survival. Recent studies have shown that simply having dispatchers coach a caller through the steps of hands-only CPR vastly improves the chance of survival while risks from doing CPR on someone who doesn't actually need it are relatively low. Dispatch assisted CPR and Emergency Medical dispatching (EMD) are key components in the chain of survival.

Additionally, by using enhanced 911, a dispatcher is often times able to direct bystanders to the nearest location of an AED. Even without enhanced 911, if communities know the location of all AEDs and share that information with dispatch, the ability to get the AED off the wall and onto the patient is greatly improved.

There is strong evidence to show that dispatching law enforcement officers and/or fire department personnel, who may be closer to the emergency, greatly improves the chance of survival. Having dispatching protocols that include law enforcement and fire departments will strengthen the chain of survival.

It is the goal of the Cardiac Ready Communities program to have effectively used enhanced 911 in every community, to have all dispatchers trained in EMD and know the location of all AEDs, and to have law enforcement and fire personnel dispatched to emergencies as appropriate.

911 Dispatching

	911 personnel only dispatch EMS providers and provide minimal information to callers	1
	911 personnel stay on line with caller to relay information to EMS personnel while en route	2
	911 personnel are trained and use dispatch-aided CPR, cardiac & stroke transport protocols	3
	911 personnel are trained and use emergency medical dispatching (EMD)	4

EMS Services

Having a well-trained EMS service is critical for an out of hospital cardiac arrest and stroke. Utilizing High Performance CPR, using an AED as soon as possible and having access to a 12 lead EKG to alert the receiving hospital to the patient's condition are all vital steps in the chain of survival. Access to a Lucas Device will assist with high performance CPR. Robust performance improvement (PI) through use of patient data and run reports ensures EMTs are striving for better patient outcomes. Some defibrillators and EKG monitors will print reports to determine the quality of CPR done during a response. An EMS patient record system that collects data on all aspects of a response, including times, treatment and outcomes is used for performance improvement. EMS trained on signs and symptoms of stroke and activation of appropriate stroke alert based on transport plans.

It is the goal of the Cardiac Ready Communities program that all EMTs are trained in High Performance CPR and that all ambulances are equipped with an AED or other type of defibrillator. Further, services engage in PI through a planned program of run reviews and data analysis.

Ambulance Service

	EMS personnel do not have an AED/defibrillator available for cardiac responses	0
	Only one AED/defibrillator shared between multiple ambulances	1
	Each ambulance or QRU Vehicle is AED/defibrillator equipped	2
	Ambulance personnel use High Performance CPR and are AED/defibrillator equipped	3
	Ambulance personnel are trained and use High Performance CPR and are AED/defibrillator equipped; they do PI on every cardiac arrest call	4

Medical Control

	Medical Control provides minimal support to the EMS service	0
	Medical Control provides feedback to EMTs only when there is a problem or question	1
	Medical Control provides feedback to EMTs but not on a regular basis	2
	Medical Control provides feedback to EMTs on all cardiac arrest calls	3
	Medical Control is an integral part of service operations including data collection and benchmarking for performance improvement over time	4

Transport Plans

	No transport plan in place	0
	Transport Plan in draft form involves ground EMS only	1
	Transport Plan in draft form involves ground EMS and air intercept plans	2
	State approved EMS plan, which includes transport of STEMI patients	3

Minimum score 7 from a combination of all 3 categories

Hospital Services

Hospitals that have improved cardiac survival rates are prepared for cardiac and stroke emergencies and share common characteristics. They receive, interpret and make decisions prior to patient arrival based on incoming EKG transmissions from transporting ambulances. Emergency Department (ED) personnel are all trained and use High Performance CPR. Critical Access hospitals have established protocols for stabilizing and transferring patients. PCI hospitals (advanced cardiac care hospitals) are STEMI (ST Elevated Myocardial Infarction) prepared. Constant data analysis drives PI through informed decision making. The goal of the Cardiac Ready Communities is to ensure all hospitals are trained and utilize High Performance CPR. They are using data analysis to drive PI.

No Hospital

	No hospital, but transport plan in place to transfer to critical access or tertiary hospital	4

All Hospitals

	Hospital is not working toward training in High Performance CPR	0
	Hospital is initiating training in High Performance CPR	1
	Some hospital ED personnel are trained and utilize High Performance CPR	2
	Hospital ED personnel are trained and utilize High Performance CPR	3
	Hospital ED personnel are trained and utilize High Performance CPR and do PI on CPR incidents	4

Critical Access Hospitals (CAHs)

	Have no specific treatment and transfer protocols for STEMI, Cardiac Arrest and Stroke patient care	0
	Are developing ED treatment and transfer protocols with PCI hospitals and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	1
	Have treatment and transfer protocols but they have <u>not</u> yet been jointly coordinated with PCI hospitals and EMS	2
	Have developed ED treatment and transfer protocols coordinated with Receiving/PCI hospitals and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	3
	Have developed ED treatment and transfer protocols with Received/PCI hospitals that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care. Hold multidisciplinary meetings with PCI hospitals and EMS to evaluate outcomes and PI data.	4

PCI Hospitals

	Have no treatment and transfer protocols for STEMI, Cardiac Arrest and Stroke patient care with CAHs	0
	Have treatment and transfer protocols that have not been jointly developed with CAHs and EMS	1
	Are developing ED treatment and transfer protocols with CAHs and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	2
	Have developed ED treatment and transfer protocols with CAHs and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	3
	Have developed ED treatment and transfer protocols with CAHs and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care. Plans for reporting patient data and outcomes back to CAHs and EMS have been developed.	4

Minimum Score of 4 from a combination of 2 categories except No Hospital

Cardiac Ready Community Program Evaluation

To insure that the Cardiac Ready Community Program is implemented and utilized effectively, annual review of the system needs to occur. Frequent review and practice ensures that all steps in the Chain of Survival, as well as other components, are seamlessly combined. By practicing scenarios that include bystander CPR, use of an AED within 3-5 minutes, dispatcher aided CPR, appropriate dispatching of emergency response personnel, and use of high performance CPR by responders and the hospital, communities will be better prepared for a true emergency. Having a process in place to implement these practice scenarios, combined with review of the outcomes will identify gaps and errors, which will improve responses in the future. Further, reviewing all actual emergency responses to cardiac events will provide valuable information, provided a process is in place to ensure the review happens.

The goal of the North Dakota Cardiac Ready Communities Project is to help communities in North Dakota improve their cardiovascular health and increase the chance that individuals suffering from cardiovascular emergencies will have the best possible chance for survival. Implementing a review process is the means of showing the goal is being addressed and continues to be improved upon.

Program Assessment

	There is no strategic plan.	0
	A plan is being developed to evaluate and improve community adherence to the program elements outlined in this document including an annual Cardiac Ready Communities review of the plan.	1
	A plan has been implemented to evaluate and improve community adherence to the program elements outlined in this document including annually scheduled and implemented CPR review	2
	A Cardiac Ready Community review of the plan includes review of community program adherence and community performance improvement review of cardiac readiness success.	3

Data Collection & Reporting System

	There is generally no data available about cardiac incidents by EMS, hospital and other components of the Cardiac Ready Community project.	0
	Little data is collected and reported. e.g. EMS and/or hospital collects data, but generally there is no data about public response or dispatch training and response.	1
	Data on each component of the program is collected according to the Community plan. Prehospital data is collected by EMS services and reported to the State registry.	2
	Data on each component of the program is collected and reviewed by the Cardiac Ready Community Team. Data drives changes to the Cardiac Ready Community Plan. Compiled data and a summary are reported to the State Cardiac Ready Communities Program on an annual basis.	3
	Data on each component of the program is collected and shared with all stakeholders. Data drives changes to the Cardiac Ready Community Strategic Plan. These changes are included in the annual summary report.	4

Minimum 4 points from a combination of the two categories