Mercy Hospital/ CHI- Fargo
AED Collaborative

Year 2 Annual Report

Catholic Health Initiatives
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HRSA 13-280

Rural Access to Emergency Devices

CHI Mercy Hospital

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration

At A Glance

78 AEDs placed through

10 CHI Facilities into

44 Recipient Agencies and Locations

6 Red Cross Trainings Conducted

65 People Trained

176 Current Certification Cards Submitted

342.75 Community Benefit Hours

Project Design

Under the leadership of Mercy Hospital-Devils Lake (ND), 12 small hospitals have joined forces in a rural AED Collaborative to place 220 AEDs in rural Minnesota and North Dakota. While the 12 sites are bound through common service barriers (rurality, distance and limited resources) and organizational ties (Catholic Health Initiatives sponsorship), their choice of local partners and AED placements reflect the unique needs and strong networks of each community.

Partnering with local EMS and county task forces, the Collaborative prioritized needs based on three criteria: first responder; regular service to 250+ individuals over age 50; and high volume community agencies.

Once placed, the AED Collaborative project has four programmatic objectives:

1. Over the three year project period, increase access to AEDs within the service area.

2. Over the three year project period, increase the utilization rate of AEDs in the event of heart attack or Sudden Cardiac Arrest prior to EMS arrival.

3. Over the three year project period, increase the survival rate (from 911 call to hospital arrival) of individuals experiencing heart attack or Sudden Cardiac Arrest.

4. Over the three year project period, increase awareness of AEDs as a complementary intervention for heart distress symptoms after calling 911.

Mercy Hospital-Devils Lake (North Dakota) serves as the project's lead agency. Nicole Threadgold is serving as the AED Project Coordinator with Kensi Eisenzimmer serving as the AED Project Assistant. Each of the remaining 11 hospitals has designated its Chief Development Officer as Project Lead to implement local AED plans, training, and placement. They will also be responsible for gathering, aggregating and reporting project data to the Project Coordinator. AEDs will be purchased through Catholic Health Initiative's established contractual policies for best pricing.

Need

Demographics

The northern plains states of Minnesota and North Dakota experience great diversity in economic resources and health care between urban and rural settings. The Twin Cities of Minneapolis and St. Paul anchor the region with 2.9 million people in the seven-county metropolitan area (2,813 square miles). In this urban environment median household income is $67,891, the median poverty rate is 8.1%, just 10.3% of residents are over the age of 65; and the EMS response rate averages 3 minutes 45 seconds for the fire department, 8 minutes for the police department.

In contrast, the collaborative' s five Minnesota Critical Access Hospitals serve approximately 81,084 residents and visitors spread over 8,626 square miles. The median household income is $48,060. The median poverty rate is 12.2%; nearly 18% of residents are over the age of 65; and the EMS response rate averages 10-45 minutes. Most counties have just one or two ambulances with more than a 1,000-mile coverage area.

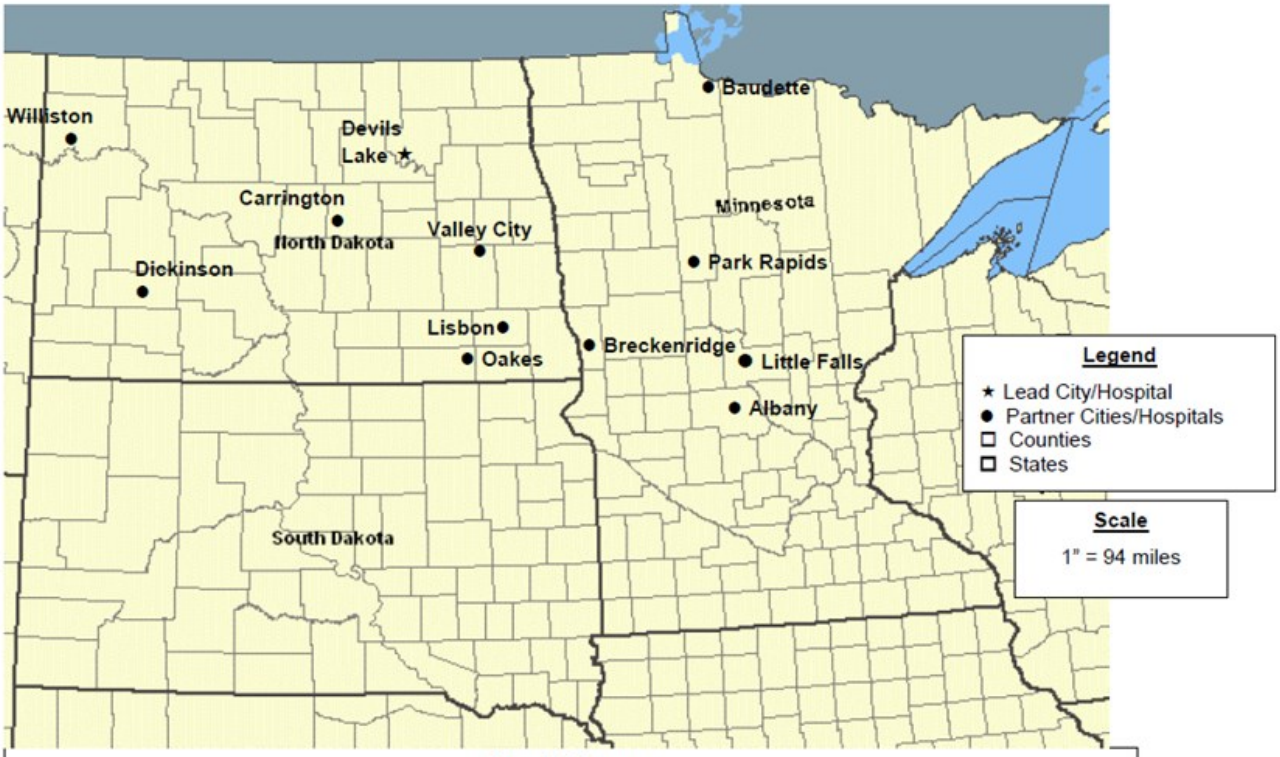
North Dakota is even more rural with neighbors and institutions, such as the collaborative' s seven Critical Access Hospitals are mutually dependent on each other. The targeted counties cover 9,573 square miles and average just 9.4 residents per square mile. The median poverty rate is 9.1%. Seniors in the services area over age 65 average comprise 18.7% of the population compared to 14.4% statewide. The median income is $49,121, mirroring the state average.

HRSA

The Health Resources and Services Administration awarded the three-year grant to CHI Mercy Hospital Devils Lake and 11 CHI rural hospitals within its Fargo Division through its Rural Access to Emergency Devices Grant Program. The total estimated cost for the AED Collaborative project is $1,034,720 over the full three years. Of this, HRSA has awarded $397,416 in federal funds for year one and two. The award is for 12-month budget periods with one additional allocation for the remaining third year, providing $595,920, 58% of potential federal assistance of over the full three year period. The remaining $438,800, 42% is funded by nongovernmental sources.

Geographical Map of Participating Hospitals

Mercy Hospital/CHI-Fargo AED Collaborative



Sample Distances

Williston, ND to Baudette, MN	509 miles	Baudette, MN to Albany, MN	257 miles
Williston, ND to Devils Lake, ND	247 miles	Devils Lake, ND to Albany, MN	314 miles

Local Partnerships and Prioritization

Many of the targeted local communities have at least one AED. A significant push catalyzed placement and training between 2002 and 2004. In the intervening years, many communities also saw firsthand the value of an AED.

Little Falls, MN. August 18, 2010. *Marc Pelzer's life was saved last month by one of the five defibrillators donated by his daughter to the Morrison County Sheriff's Department in 2006. It was totally unacceptable that the Little Falls Police and the Morrison County Sheriff's Department previously had no AEDs in their squads.* – Morrison County Record.

Communities now want access to life saving technology. However many organizations, including first responders, lack the resources to replace aging AEDs (from mid-2000s) or are unable to fund the purchase and training for new AEDs.

The Development Officer from each hospital has contacted first responders, ambulance services, community service centers (e.g., senior centers), and community gathering places (e.g., hockey rinks) to determine the number of individuals served, service population age range, whether the agency/facility currently has one or more AEDs and if so, the age of the AED.

The Development Officer then prioritized the responses:

- Priority Level 1: First responders
- Priority Level 2: Agencies, facilities, or gathering places serving at where at least 250 individuals over age 50 gather on a regular basis
- Priority Level 3: Community agencies, facilities or gathering places to which the average EMS response time is greater than 12 minutes.

The prioritization process winnowed AED requests from over 250 to 220. Due to the extent of the local project collaboration, information on each hospital, its partners, and AED placement is provided:

AED Recipients

Devils Lake, ND
Benson County Emergency Mgt Office
Cando Park Board

Valley City, ND
None Allocated for Year 2

Park Rapids, MN
Citizens National Bank
Park Rapids Schools
Hubbard County

Lisbon, ND
Parkside Lutheran Home
Maryhill Manor
Ransom County Public Health
Good Shepard Lutheran Church
Sheyenne Valley Eagles 2968
Verona Community Center
City of Fort Ransom

Oakes, ND
none allocated for year 2

Carrington, ND
Grace Lutheran
Sacred Heart Catholic Church
Faith Baptist
Calvary Baptist
Bethel Chapel
Kvernes Church
Schoolhouse Café

Williston, ND
Williston Council for the Aging
Slolin Field Airport
Confluence/Ft. Buford State Historic Site
Upper Missouri Valley Fair Ground
Upper Missouri Ministries Bible Camp

Dickinson, ND
Dickinson Fire Department
Beach Medical Clinics
Killdeer Medical Clinic
Dickinson Rural Fire & Rescue
ABLE
Killdeer Public Schools
Trinity Public Schools
Heart River Golf Course

Little Falls, MN
Morrison County Food Shelf

Baudette, MN
Lake of the Woods Ambulance Service

Lake of the Woods County Law Enforcement
Lakewood Clinic

Albany, MN
City Hall in Holdingford
Catholic Community Parrish
SonRise Lutheran Church, Avon, MN

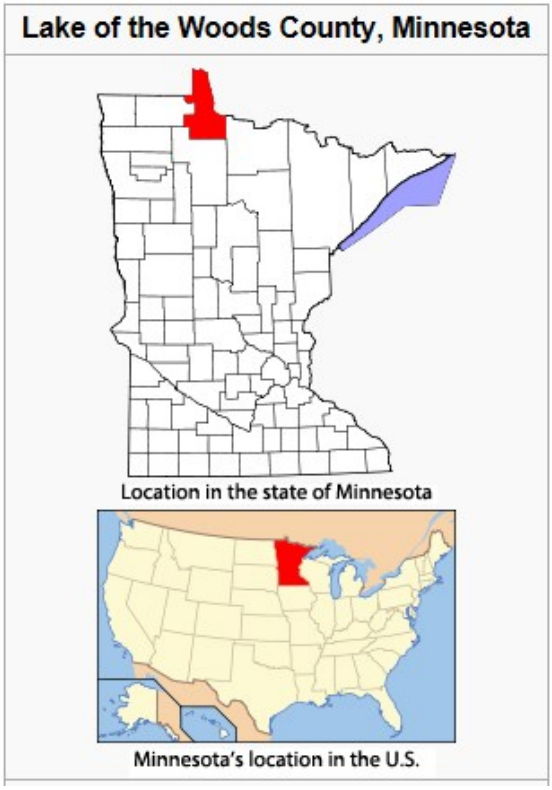
Breckinridge, MN
Richland County Sheriff
Fairmount Fire and Rescue
Wahpeton Fire Department
Hankinson Fire Department
Mooreton Volunteer Fire Dept.

78 AED's distributed throughout 44 locations.

Year 2 AED Use

Year 2 brought the first AED use among the grant's recipient agencies. The recipient site was Lake of the Woods County Sheriff Office in Baudette, MN. The AED was used during a 911 response to the Northwest Angle portion of their county. The Northwest Angle aka "the Angle" is located on the northern side of Lake of the Woods, or when viewing a map, the "chimney". The area is 596.3 miles, 473.2 miles of that is water. It is also the northern most point of the contiguous 48 states. The Angle is in coexistence with Angle Township and Lake of the Woods County, surrounded by Manitoba and Ontario. Ground access to the Angle is only available by traveling through Canada.

The AED use occurred on 5/22/14. A 911 call was placed at 9:50am when a 66 year old male patient suffered a collapse with loss of consciousness and signs of circulation. CPR was started at 10am by a bystander, and an AED was deployed. The Lake of the Woods County Sheriff Office responded with their grant funded AED, prior to EMS arrival. The AED was at the patient's side at 10:10am. The AED was turned on at 10:13am by a trained AED employee. It appropriately recognized the rhythm as Ventricular fibrillation and delivered a total of 3 shocks. The patient was unchanged upon arrival of Roseau EMS and transport to the Roseau Hospital.



★ = Baudette, MN– location of Lake of the Woods Sheriff Department and CHI Lakewood Health

★ =Roseau, MN– location of responding Roseau EMS and Roseau Hospital

Northwest Angle = location of patient collapse and grant funded AED with a part-time Sheriff's Deputy stationed in the Angle

Partnership Agreements

Each organization signed a Memorandum of Understanding outlining their responsibilities should they receive one or more AEDs.

Each organization receiving one AED (or multiple) must send three individuals per AED unit to AED training. All non-first responders will participate in a half day session leading to Red Cross certification. All first responder agencies (EMS, police, sheriff, fire) will be provided with a more rigorous full day course, or refresher course if currently certified. If the recipient already has AED certified staff, the agency is able to submit those certifications in lieu of training. All courses will include the following curricular components:

- CPR
- Safety for victims and rescuers including site assessment and blood/ airborne pathogens
- Electrode placement
- Delivering the shock
- Hands-on practice

Each hospital has been provided with an AED simulator and supplies to be used in conjunction with the course's didactic information and videos. Online materials will be available for all sessions.

Placement

Once the AED training is complete, the Project Lead will meet with each agency's liaison to review the expectations for reporting and document each AED's installation data. All sites will provide the hospital with a one-page fact sheet on each AED, via Zoll's internal tracking system on each unit.

Items included on the Fact Sheet are:

- Organization name, mailing address, phone, fax and email
- Physical address and location of where the AED is placed inside the facility
- Primary AED contact person – name, phone, email
- Device type and serial number
- Installation date
- Installation battery expiration date
- Installation pads expiration date

Recipients will perform visual AEDs battery checks monthly, the AED will display either a green or red check light depending on battery status. They will note the date and individual conducting the check. Recipients must agree to absorb all maintenance costs after the initial placement.

Partnership Agreements Continued

Community Outreach and Public Relations (PR)

AED effectiveness is like a three-legged stool. AEDs must be available, AEDs must be used, and citizenry must recognize the link between cardiac arrest/ Sudden Cardiac Arrest and AED use. Community partnerships and training support the first two legs. Communication, outreach and a coordinated public relations (PR) campaign complete the triangle. As the AEDs are placed, the public needs to be informed and trained. The Project Lead for each hospital will implement a three-fold information and education campaign.

1) Prepare press releases for local newspapers and radio stations (a key source of community information). Press releases will contain information on AED placement and rationale, community training, Sudden Cardiac Arrest, the local AED partnership members, CHI support, HRSA funding.

- Similar articles will be prepared and distributed to recipient agencies to include in their mailings, newsletters, websites or other distribution networks.

2) Projected outcome and impact data and/or stores will be shared through the grant's annual report. The webpage will contain grant funded AEDs locations including a map, an explanation of Sudden Cardiac Arrest, and contacts for local trainings.

- Projected outcome and impact data and/or stories will be shared through the grant's annual report. The Project Coordinator will forward this information as well as project-wide data to CHI for regional/national reporting (available in print and through the websites.

3) Each recipient organization will be asked to publicize Sudden Cardiac Arrest (SCA) and the AED project at its location and/or through a newsletter or similar publicity piece. To supplement these efforts, each recipient site will receive two signs per AED notifying the public that an AED is available at that location. Each site will also receive one adult and one child's Red Cross Heart Saver poster to be placed near the AED location.

Data Collection and Reporting

Data collection is vital to evaluate the AED project's effectiveness. The vast distances between sites requires a streamlined system with the same requirements for all. The Project Coordinator will develop common reporting forms for process data. Each site will be responsible, quarterly, for reporting the following items to the AED Project Assistant:

1) Number, type, cost of AEDs purchased/received

2) Verification of training including: name of trainer, date/times of training, training location, participant trainees (name and affiliation – 1st responder, agency employee/ volunteer)

3) Number of AEDs placed including a copy of the 1 page AED placement information/Fact Sheet from each local agency

4) AED Utilization/Patient Incident reports. This data is required for each AED incident and is based on MNSTAR and NEMSIS requirements

5) Examples of PR and outreach materials and/or processes

The Project's Assistant is then responsible for data aggregation. She will:

1) Report AED placements to state EMS offices annually.

2) Create a quarterly formative report which aggregates data from all 12 sites. and communicated to each Site Lead.

3) Create an annual summative report that includes the aggregated data by site, by state, and for the region. The annual report will be distributed to the Project Lead and CEO at each partner hospital plus to CHI-Fargo Division Headquarters. The Project Leads will then share the data with local EMS and partner agencies.

The Project Coordinator and Project Leads will attend quarterly regional meetings via teleconference or travel to Fargo, ND to discuss implementation processes and efficacy, formative data, and lessons learned. Programmatic improvements will be implemented by site or regionally, as appropriate.

Evaluation

It was determined by the grant's HRSA Program Director that an external evaluator and associated costs are not required if the grantee possesses the capabilities to compile the required PIMS report. These evaluation activities will be completed internally.

AED Training Preferred Partner Selection Process

Red Cross and American Heart Association both submitted bids for the AED training portion of the grant in Year 1. Upon review, the bid from American Heart Association was incomplete. Multiple requests were made to the agency submitting the bid on behalf of American Heart Association (Fargo Moorhead Ambulance) for bid completion; however, no follow-up bid was submitted. Red Cross was then selected as the preferred partner for the grant.

American Red Cross

AED Preferred Partner Selection Process

A committee of CHI stakeholders with areas of expertise in Supply Chain, Clinical, and Foundation was pulled together in Year 1 of the grant. This team consisted of the following folks, with the intent of selecting the devices based on a **combination** of clinical and financial criteria.

- Nathan Andreasen, Regional Director Supply Chain
- Todd Lawley, Senior Planning Associate, Strategy & Business Dvlp, Foundation
- Roxanne Wells, Mercy Hospital Devils Lake ND Foundation
- Mary Helland, Chief Nursing Officer
- Jane Smalley, Outpt Nurse Manager, Little Falls MN
- Brenda Huwe, Manager Emergency Services, Park Rapids MN

Three vendors were invited to participate in the bid process, which was based on their membership with Healthtrust, CHI's GPO. These vendors, Zoll, Phillips, and Physio-Control all presented their clinical options to the committee on Thursday, January 2nd, 2014. Subsequent conference calls with each vendor and our team focused on their AED program management offerings. Bids from each company were received, analyzed, and then discussed with the team. Clinical review, as well as the financial analysis, each contributed to our selection of Zoll as our grant provider. Clinical reasons included the feedback capabilities the Zoll devices offered on chest compressions depth, as well as the device assisting with proper wind pipe alignment. Financially, Physio Control had an acquisition cost that placed them out of the running. Philips and Zoll were priced competitively, but when weighing the clinical preference for the Zoll device, Zoll was selected as our preferred partner for the grant. These vendors continue to be the preferred partners for the duration of the grant.

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Year 2 Timeline

9/2014 – Grant Approval Notice

10/2014 – Official Grant Kick-Off Call for Year 2 with site leads; AED recipient agencies contacted

11/2014 – Memorandum of Understanding sent to AED recipient agencies

1/2015 – 2/2015 – Coordination of trainings, current certification cards, ordering of AEDs

3/2015 – Semi-annual site lead meeting

3/2015 – 6/2015 – Red Cross Trainings; shipment of AEDs once certification requirements are completed for each recipient agency

7/2015 – Rollover of Year 1 marketing funds approved; coordination with each site lead advertising efforts

8/2015 – AED location and summary by state sent to MN and ND Division of EMS services; Community Benefits hours submitted for FY15 to each site; Semi-annual site lead meeting.

Lessons Learned

The rural nature of our service area, which qualified us for the grant, has proven a challenge for certain aspects of implementing the grant:

- The training agreement between Catholic Health Initiatives and the American Red Cross: The training agreement was amended in Year Two to include a Professional Recertification training class. Year One showed the need for this type of course, as several first responder agencies receiving AEDs were already certified, and only needing a recertification level course.

- Evaluation: The University of North Dakota Center for Rural Health was originally written into the grant to provide the evaluation piece. It has been determined that if we have sufficient material, we do not need to hire an external evaluator. This has been approved by our grant contact at HRSA. A formal request to rollover the evaluation budget into the AED budget will occur at the end of Year Two.

- Marketing budget: Marketing dollars from Year One were determined insufficient for our individual markets to leverage for impact. These dollars were requested to roll over to the Year Two budget resulting in a larger budget. Year One rollover of marketing funds was approved in the last quarter of Year Two. Advertising efforts were coordinated at that time.

- Year One budget rollover: Final approval of Year One rollover was very delayed, resulting in the use of those funds to be approved in the last quarter of Year Two.

- Year One maintenance checks: A requirement of the MOU signed by each AED recipient agency is to conduct monthly maintenance checks for the duration of the grant. It has taken several months to get the majority of our recipients to log the checks. One recipient continues to present challenges, and have never logged a maintenance check despite numerous phone calls, emails and site visits that have occurred. A Year One recipient presented challenges, as they never logged a maintenance check despite numerous phone calls, emails and site visits. This AED was relocated in Year Two to another agency within the same service area that can properly maintain the AED.

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