



***MEDICAL FIRST RESPONDER
REIMBURSEMENT PILOT
PROJECT***

Final Report

Spring 2011

Minnesota Department of Public Safety

State Fire Marshal Division

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Executive Summary

After conducting a four month study and evaluating 3,617 calls for service with five medical first responder units (Duluth Fire Department, Hawley Emergency Response Team, Milan Emergency Medical Services, Minneapolis Fire Department and Richfield Fire Department), a fact that many have believed for some time, has been confirmed; medical first responders do make a difference and are an integral part of the emergency medical services delivery system. These responders are attached to Law Enforcement Agencies, Fire Departments, are stand alone services, some are 501c (3) organizations, others are internal private industry medical first responder units. Their skill level ranges from medical first responders to Doctors. Responders arrive in fire trucks, squad cars, rescue squads, and in many cases, personal vehicles.

The study shows medical first responders sometimes arrive ahead of the ambulance, provide care before an ambulance arrives, assist the ambulance personnel on scene, and assist when requested on the way to the hospital in the back of the ambulance. It also shows that there are times when the medical first responder unit keeps an ambulance in service by handling lift assists and other types of calls. This allows ambulances to be available for calls that do require medical care and transport.

Currently, the standard in Minnesota is that medical first responders do not, for the most part, request payment for services rendered. Some services do charge a flat fee, others only charge for car accidents. Costs on a call can come from equipment used (both disposable and reusable), and costs for personnel to be available. Medicare will not reimburse for first responder medical calls which in some areas can be as high as 65 to 70 percent of the population. Many of our medical first responders are volunteers. There are also services that have a paid, on-call system. Those that are on-call, receive a small stipend or hourly compensation in return for taking shifts to ensure that there will be trained personnel responding when needed. There are also full time personnel (usually on full time fire departments) that respond as part of their shift duties.

Funding medical first responder units varies across the state. Some local units of government provide a budgeted amount each year; others are on their own to raise money via service group donations or different fundraising events like a pancake breakfast or game feed. In some instances, private donations have been given to services. Some ambulance services and healthcare systems will provide training for free or donate equipment to rescue units. Every little bit helps to defer the costs associated with maintaining a medical first response unit. The costs associated with the medical first responder unit are maintain training which many members pay for on their own, equipment costs both disposable and reusable and maintenance of equipment.

Emergency medical services in Minnesota is a system of patient care originating from the initial 911 call with assistance from dispatch, arrival of medical first responders, the ambulance, possibly a air medical helicopter, providing the appropriate in field interventions and delivering the patient to the appropriate medical facility such as a level 3 or 4 hospital or a level 1 trauma center or specialty center such as a

level 1 stroke center. Each aspect of this system has its own affect on patient care. In order for the system to work efficiently and effectively to deliver the most appropriate patient care, the system that has been established needs to stay intact. Medical first responders in many areas of Minnesota play an important role in patient care delivery that ultimately saves lives and can reduce health care costs.

History of Project

During the 2009 Legislative Session the State of Minnesota Legislature allotted \$250 thousand (Chapter 173, Article 2, Section 6 as well as Chapter 79, Article 10, Section 48) to the Department of Public Safety for a medical first responder Pilot Project. The Department of Public Safety tasked the State Fire Marshal's Office in coordinating this project. The project was to provide a coordinated pilot project to establish a limited reimbursement program for services rendered and costs incurred while responding as a registered medical response unit in the State of Minnesota within an emergency medical services system.

The objectives for the Project are:

- Determine to what type of calls medical first responder units respond.
- To evaluate the interventions available to medical first responders.
- To evaluate the effect of medical first responders on the EMS system.
- To evaluate the impact of medical first responders to overall patient outcome.
- To evaluate reimbursement of medical first responders for services rendered.

The tasks for which medical first response agencies were responsible:

Task 1 – Appropriately render care to patient within scope of practice/medical direction.

Task 2 – Document the information requested on run form.

Task 3 – Provide additional “run” information as requested by DPS project coordinator.

Task 4 – Submit invoice to DPS project coordinator once a month.

Task 5 – Assist DPS project coordinator if needed with the final report.

Project Timeline

- The project received funding July 2009
- In January of 2010, the coordinator of the project was hired to start the project
- January 2010, project was started
- March 2010, the project was stopped due to a Legislator's request
- May 2010, project was started again with an RFP development
- June 2010, RFP 1 was released
- August 2010, RFP 1 submissions received
- August 30, 2010, Richfield FD and Hawley Emergency Response Team notified of RFP award
- August RFP 2 was released
- September 21, 2010, Duluth Fire Department, Milan EMS and Minneapolis Fire Department notified of RFP award
- September 23, 2010, Richfield Fire Department became first project site to start collecting data
- October 13, 2010, Milan First Responders became second site to start collecting data
- October 19, 2010, Minneapolis Fire Department became the third site to start collecting data
- November 4, 2010, Duluth Fire Department became the fourth site to start collecting data
- November 13, 2010, Hawley Emergency Response Team (HERT) became the fifth site to start collecting data.
- Data was collected until December 31, 2010

During the history of the project there were a few factors (request to stop the project, and process) that affected the duration of the original project data collection timeline, which ultimately began September 23, 2010 and lasted until December 31, 2010. However, a significant amount of data was obtained from the five medical first responder units. The data was submitted via a combination of pre-hospital patient care reports and excel documents that provided information needed for the study. To comply with HIPPA laws, no patient identifiers were provided to the project coordinator. The data does provide subjective information in many cases of the patient's condition when the transition of care took place between the medical first response unit and the ambulance. Due to HIPPA, the ability to access patient information past the ambulance report and a short time frame, made it difficult to follow patients overall outcomes through the hospital system. This challenge was identified at the start of the project.

The data also provides objective information such as type of call, interventions, vitals, injuries or symptoms, etc.

The project coordinator did convene a steering group at the start of the project to assist with the RFP criteria. The steering committee consisted of:

- Julie Brunner, Health Care Plans
- George Esbenson, Eden Prairie Fire Department
- Ron Robinson, Metropolitan Emergency Services Board, Minnesota Ambulance Association
- Marty Scheer, Edina Fire Department, Fire Chiefs Association EMS chair
- EMSRB staff member (Robert Norlen and Mary Zappetillo)

Three individuals were consulted due to their knowledge of the legislation and the project.

- O.J. Doyle, EMS lobbyist, technical advisor
- Buck McAlpin, North Memorial, technical advisor
- William Snoke, Allina Office of EMS, technical advisor

Medical First Responders in Minn.

Medical first responders in Minnesota are an integral part of the pre hospital emergency medical services delivery system. However, the system does not have a prescribed medical first responder unit deployment plan across the state. There are many examples of emergency medical services delivery systems across the state. The systems across the state are determined based off of resources available, geographic location and call volume. The resources include medical first response units, basic life support and advanced life support ambulances, advanced life support quick response vehicles, helicopters, and medical facilities. The local emergency medical services system and how it operates is also dependent on the medical direction of the local medical director. The emergency medical services system that is set up locally and regionally within the state is exactly that, a system established based on the resources available within the response jurisdiction and the region, to effectively and efficiently provide patient care. For example, helicopters are generally not used in the metropolitan area due to ground transport time to local hospitals and the difficulty of maneuvering the helicopter in congested areas. In Greater Minnesota a helicopter could be part of the normal response, depending on the condition of the patient and the type of call.

Determining the total number of medical first responders and medical first responder units is a difficult task. Some fire departments respond to EMS calls, many do not. There are some medical first responders that only respond to EMS calls within their jurisdiction and there are some medical first response units that service a specific organization such as a private company. There are 200 services

that have registered with the Emergency Medical Services Regulatory Board as a medical response unit or a specialized medical response unit; out of 788 fire departments, and approximately 471 law enforcement agencies in Minnesota. Some services are 501c (3) organizations.

Medical first responders in Minnesota are not required to register with the state. They can voluntarily register through the Emergency Medical Services Regulatory Board (EMSRB). By registering with the EMSRB, the medical first responder unit is identified and on a list with the state. For the study, services that applied were required to register with the Emergency Services Regulatory Board.

Currently there is no established process for medical first responders to obtain reimbursement for medical care provided to a patient prior to arrival of an ambulance or in tangent with the ambulance provider. There is also nothing precluding them from billing for services rendered on an emergency medical services (EMS) call. In many cases, no fault automobile insurance will reimburse medical first responder calls involving vehicle accidents. Currently, some health insurance companies will also reimburse medical first responder units when they have rendered aid. However, there is nothing in law that mandates health plans or state payer programs pay medical first responder units. If the medical first responder unit is government based, and sends a bill that results in a debt owed, there is revenue recapture legislation through tax abatement that allows for pursuing the debt for services rendered and equipment used on the medical first responder call. This does not apply to medical first responder units that are not associated with a government jurisdiction.

In some instances, the medical first responder unit will swap out new unused equipment to replenish equipment that was utilized to render care to the patient. Other ambulance services might provide a reimbursement directly to the medical first responder unit for services. They may also provide in kind services in training, equipment and or medical direction. Many medical first responder units do not receive any compensation for services rendered due to the lack of a system in place or their organization mission includes not charging for services.

Services That Applied

There were two RFPs released. The first RFP generated two services responses (Richfield Fire Department and Hawley HERT). Both Richfield Fire Department and Hawley HERT met the RFP requirements, were scored and were invited into the pilot project. A second RFP was released after minor modifications to the qualifications criteria. The second RFP generated ten additional responses. Duluth Fire Department, Milan EMS and Minneapolis Fire Department were invited to the pilot project. The statute allowed for up to five services to be invited into the pilot project.

RFP packets were sent to all 200 registered medical first responder units. Within the packets the medical first responder units were asked to provide a brief synopsis of their organization as seen below.

Medical First Responder units provided information on the following:

- When your unit started medical first response?

- Geographic area that you respond in?
- Number of calls a year?
- Answer “do you charge for services rendered?” if so, what do you charge, what is your success rate of receiving payment and how do you charge?
- How many medical first responder members are on your service?
- How are your medical first response unit calls dispatched?
- What means do your responders utilize to respond to the call for service?

First RFP Criteria (differences between First RFP and Second RFP are *Italicized*)

Criteria #1 – Must be a medical first responder unit based in Minnesota.

Criteria #2 – Must be registered with the State of Minnesota Emergency Services Regulatory Board *as of June 1, 2010*.

Criteria #3 – Currently record and track medical response data; please provide an example.

Criteria #4 – Provide a current medical response personnel roster with medical certifications listed.

Criteria #5 – Please list the interventions that your first response agency has available to them for patient care.

Criteria #6 – ***Must be*** a service that responds to no less than 100 calls a year OR a service that responds to no more than 3,000 calls a year.

Criteria #7 – Medical first responder unit which responded to EMS calls prior to June 1, 2010.

Criteria #8 – Medical response units must have coordinated their operations with an ambulance service or services licensed to provide care in their first response geographic area.

Criteria #9 – Medical response units must have written protocols that are approved by a medical director.

Second RFP Criteria

Criteria #1 – Must be a medical first responder unit based in Minnesota.

Criteria #2 – Must be registered with the Minnesota Emergency Services Regulatory Board.

Criteria #3 – Currently record and track medical response data; please provide an example.

Criteria #4 – Provide a current medical response personnel roster with medical certifications listed.

Criteria #5 – Please list the interventions that your first response agency has available to them for patient care.

Criteria #6 – ***Preference provided*** to a service that responds to no less than 100 calls a year OR a service that responds to no more than 3,000 calls a year.

Criteria #7 – Medical first responder unit that responded to EMS calls prior to June 1, 2010.

Criteria #8 – Medical response units must have coordinated their operations with an ambulance service or services licensed to provide care in their first response geographic area.

Criteria #9 – Medical response units must have written protocols that are approved by a medical director.

The following services completed the RFP process. The bold and italicized services were selected.

- Brooklyn Park Fire Department
- Byron First Responders
- ***Duluth Fire Department***
- Frazee Rescue
- Garfield First Responders
- Good Thunder Fire Department
- ***Hawley Emergency Response Team***
- La Crescent Fire Department
- ***Milan EMS***
- ***Minneapolis Fire Department***
- Isanti Fire Department (late)
- ***Richfield Fire Department***
- Roseville Fire Department
- South Metro Fire Department
- Vadnais Heights Fire Department

Duluth Fire Department

The mission of the Duluth Fire Department: “Dedicated to save life and property by safeguarding our citizens through progressive building inspection, fire prevention, public education, responding to emergencies, and adapting to meet the needs of our community.”

The City of Duluth (population 86,918) is located at the western tip of Lake Superior, 150 miles north of the Minneapolis-St. Paul metro area. Duluth is a regional hub of transportation, industry, health care, and education. The city also contains an international airport, regional power distribution system, federal prison, major natural gas pipelines, an international railway system, three universities, two regional hospitals, many military and government facilities and general aviation manufacturer Cirrus

Design. Duluth also possesses the busiest shipping port on the Great Lakes (40 million metric tons shipped annually) receiving ocean going and regional cargo vessels. Firefighting challenges specific to Duluth are protection of high-density housing stock, 60 percent of which was constructed prior to 1940, depressed socioeconomic factors with double the state average of residents living below the poverty level, severe winter weather, and hilly topography similar to that of San Francisco, California. The city is unusually shaped, 26 miles long, averaging 3.5 miles in width and encompassing 77 square miles. The Duluth Fire Department is a full-time career organization consisting of 128 firefighters. In 2009, the Duluth Fire Department responded to 9,319 calls for service, of which 5,664 were medical emergencies.

The Duluth Fire Department was established in 1870. Personnel began responding as medical first responders in 1927, carrying resuscitation equipment with one inhaler, one oxygen breathing machine, and a late model gas mask. The largest increase in medical service began in 1973, when the first firefighters were trained to the emergency medical technician level. There were 22 EMTs on the department by the end of 1975 and by the end of 1977, 88 percent of the department had become nationally registered EMTs.

Currently, all 128 firefighters are trained to emergency medical technician basic level, with seven of them trained to paramedic level. They staff nine stations throughout the city of Duluth on several types of fire apparatus including nine engines, three aerial ladder trucks, one heavy rescue squad, and two SUVs that are staffed with command personnel. All vehicles used for emergency response are owned by the city of Duluth. The department does not currently charge for any services provided, including fire response, medical response, rescues, etc.

Calls for service are taken and dispatched through the southern St. Louis County 911 dispatch center, in Duluth. There is a dedicated dispatcher who dispatches for the city of Duluth, and surrounding county area, for fire and medical first response calls. When the Duluth Fire Department is dispatched for a medical response, the dispatcher selects the engine, truck or rescue apparatus nearest to the emergency so that response time is lessened. The local private advanced life support ambulance service is also dispatched for patient transport when the Duluth Fire Department receives a medical call. Within the city of Duluth, basic life support is provided by the Duluth Fire Department in an average response time of 2.5 minutes. Registration number is 8057.

INTERVENTIONS: AED, King Airway, glucometer, oxygen, aspirin, albuterol (nebulizer), oral glucose

Hawley Emergency Response Team (HERT)

The Hawley Emergency Response Team is a private not-for-profit 501c (3) corporation that officially began operations on April 1, 1978.

Their response area consists of 198 square miles in Clay County, Minn. which includes the city of Hawley and the townships of Cromwell, Eglon, Hawley, Highland Grove, Parke and Skree.

The Hawley Emergency Response Team averages approximately 170 runs per year and has responded to just fewer than 5,000 calls since beginning operations.

The Hawley Emergency Response Team began charging for its services in 1994. They have two rates for services which consist of a “basic rate” and an “advanced rate”. The basic rate is \$100 per patient and the advanced rate is \$300. The difference between the two rates is based on equipment and supplies used as well as additional resources and or procedures used. For example: Advanced rates would apply to cardiac arrests. An invoice for services is sent directly to patients and success rate of collections is between 65 and 80 percent.

They currently have 10 members on their squad with certifications from Minnesota. Those certifications include first responder, nationally registered basic emergency medical technicians and paramedics.

The Hawley Emergency Response Team is dispatched by Clay County’s public safety answering point and the Red River Regional Dispatch Center in Fargo, ND.

Members report to their facility when paged and respond to the emergency in squad vehicles. The team’s fleet consists of a 1993 ambulance, a 1997 heavy rescue crew cab 4x4 pickup, and a 2004 GMC crew cab pickup. They also operate a water rescue boat and house and maintain a fully stocked Clay County disaster trailer.

The Hawley Emergency Response Team provides its services under contract with the governmental subdivisions in their primary service area and operates in conjunction with Fargo-Moorhead ambulance, Barnesville Ambulance, and MeritCare LifeFlight.

The Hawley Emergency Response Team operates under written protocols approved by their medical director. The team utilizes the same medical director as Fargo-Moorhead Ambulance.

The Hawley Emergency Response Team has been registered with the state EMSRB as a medical response unit since that option became available. Registration number is 8074.

The Hawley Emergency Response Team records all calls on a report form that is sent with the transporting ambulance. It includes copies for the ambulance service as well as the receiving hospital. All call data is recorded and tracked on a monthly basis with detailed call information, excluding private information, which is shared with the governmental subdivisions we serve as well as published on the team’s website (www.hawleyhert.org).

The Hawley Emergency Response Team has a full cache of medical and trauma supplies in each of its emergency vehicles. Those supplies include spine boards, cervical collars, bandages, airways, blood pressure cuffs, stethoscopes, pediatric equipment and supplies, splinting equipment, etc. as well as the interventions listed below:

INTERVENTIONS: AED, King Airway, glucometer, oxygen, nitroglycerine, aspirin, Benadryl, Epi-Pen, Epi-Pen Jr., albuterol, oral glucose, glucagon, activated charcoal, Combitube, Combitube - SA

Milan First Responders

Milan EMS is a first responder service formed in 1977. Their service area includes a radius of approximately ten miles around the City of Milan, Minn. Milan EMS averages 25 calls per year, varying by nature.

Milan EMS does not charge for services at this time. The main source of funding is support from the city of Milan and the townships of Kragero and Big Bend. Milan EMS' current roster is 12, 11 EMTs and a first responder. Milan EMS has a unique profile, they respond as a first responder service, most of their EMTs work, or have worked, on an ambulance crew. Milan EMS also crosses over into other disciplines of fire protection and law enforcement.

Milan EMS is dispatched by pager from the Chippewa County Sheriff's Office. They house an ambulance in their fire hall to respond to calls. The service is stocked to be able to handle three patients at one time. The patient care provided is very similar to an ambulance service, however, they do not transport patients. Since they do not have a "call schedule" members respond to the hall or in personal vehicles to the scene.

Over the course of 33 years, Milan EMS has developed a great working relationship with their EMS partners, Appleton Ambulance Service and Chippewa County Montevideo Ambulance. Dr. Bruce Arvold serves as medical director for Milan EMS. Milan EMS is a registered medical response unit with the Minnesota EMSRB. Registration number is 8179.

INTERVENTIONS: AED, AED with 3 lead, King Airway, glucometer, oxygen, nitroglycerine, aspirin, Benadryl, Epi-pen, Epi-pen Jr., albuterol (nebulizer), oral glucose, glucagon

Minneapolis Fire Department

The Minneapolis Fire Department (MFD) has been a registered medical first response unit (#8345) with the Emergency Medical Services Regulatory Board (EMSRB) since the program's inception (1997-1998) and has proudly provided basic life support (BLS) first response to Hennepin County Medical Center Ambulance and North Memorial Medical Transportation in the city of Minneapolis since the mid-late 1960's. The Minneapolis Fire Department (on average) responds to 22 thousand 911 EMS requests a year and renders emergency medical care on 11 thousand of these requests for help annually. These 11 thousand EMS calls consist of a variety of medical complaints and traumatic injuries where emergency medical treatment is provided (Attachment 1) based on EMS protocols overseen by our Medical Director Dr. Brian Mahoney.

Currently, MFD is required to "swap out" any used equipment and supplies utilized to render patient care with the responding advanced life support transport EMS agency. Often, depending on patient acuity, tools, equipment and supplies used are not 100 percent compatible and therefore the cost of replacing them is born by MFD. The only compensation MFD currently receives is through reimbursement provided by "No Fault" automobile insurance for the services provided at motor vehicle

accidents. On average MFD responds to 700 Personal Injury Accidents a year and collects on average 50 percent of all services billed for, an approximate annual revenue totaling \$130 thousand. As you might imagine, the cost of providing EMS first response far surpasses this total when you consider MFD has 26 first response units consisting of fire engines, ladder trucks, and rescue squads staffed with 3-6 EMT-firefighters (415 total) making 22 thousand EMS calls 24/7 during the year. In this economic climate with continued loss of local government aid (LGA), shrinking city budget dollars and the ever increasing cost of doing business, the outlook is bleak unless we are able to find alternate means for generating revenue for EMS service (70 percent our responses) provided.

MPDs goal remains the same. To provide exemplary patient care to those in need. This need is best measured in patient outcomes. Registration number is 8345.

INTERVENTIONS: AED, Epi-Pen, albuterol, nitrogen, oral glucose, Lucas device, oxygen, pulse oximetry, King Airway, Res-Q-Pod

Richfield Fire Department

The Richfield Fire Department (RFD) has been the designated primary first responder to emergency medical events in Richfield since the late 1970s. Since that time, all Richfield firefighters have maintained a minimum of Minnesota Emergency Services Regulatory Board, EMT-B certification.

A private service provided advanced life support (ALS) response until the early 1980s when Hennepin County Ambulance Service became the ALS provider.

The Richfield Fire Department normal response area is the geographic boundaries of the city of Richfield. Fire mutual aid agreements also exist with neighboring communities. They may respond to those areas on occasion.

During 2007-2009 the average number of emergency medical service (EMS) first responder calls responded to by the Richfield Fire Department averaged 2,712 responses per year.

The range for those three years was 2,643- 2,796. For the first six months of 2010 the number of EMS responses is 1,415.

RFD does not charge for EMS first responder response with one exception. The Richfield Fire Department does charge automobile insurance companies if the response to an automobile accident involves the use of tools to provide victim extrication or they apply a cervical collar or backboard a patient. Those events are billed at \$250 per hour, per response vehicle operating at the incident.

RFDs collection rate is approximately 70 percent. Non-collection is normally due to the lack of insurance coverage or the \$20 thousand limit was already reached before our bill was received. They do not pursue collecting on those bills.

RFD participates in an equipment exchange program with its ALS provider. Disposables such as oxygen masks, airway adjuncts and cervical collars used prior to the ALS ambulance arrival are resupplied by the ALS provider.

As of July 30, 2010 the Richfield Fire Department has 24 fulltime personnel who respond to EMS events as first responders. RFD is authorized for 26 fulltime personnel and is in the process of filling two vacancies.

Richfield maintains its own public safety answering point (PSAP) that directly receives 911 calls from within the city of Richfield. Richfield Fire EMTs staff two fire stations 24/7 and are alerted to events via an 800 MHz radio and dispatch system.

Average time from the 911 phone call to alerting responders is 30 to 40 seconds. Average response for fire first responders to arrive on the scene is about three minutes.

Three response vehicles with a minimum of two personnel assigned to each, are in service 24/7. Two of the units are typical fire department engine companies and the third is a medium duty enclosed rescue vehicle. The Richfield Fire Department is a registered medical response unit with the Minnesota Emergency Medical Services Regulatory Board. Registration number is 8102.

INTERVENTIONS: AED, King Airway, glucometer, oxygen, assist with nitroglycerine, aspirin, Epi-Pen, albuterol (nebulizer), Res-Q-Pod, pulse oximetry

Data Collected for the Study

Information was collected via the medical first responder units run forms or through an excel document that collected certain criteria from the run forms. In accordance with HIPPA laws, the medical first responder units did not provide patient identifier information. Data was collected up to December 31, 2010 at midnight to collect as much as data as possible. Data was received for analysis from the medical first responder units from October 2010 through February 2011 and analysis was conducted in March 2011 with the report finishing up in Mid April.

The data analyses were based off of subjective and objective information provided in the run forms and excel documents.

Types of Calls Medical First Responder Units Respond To

The types of calls medical first responders respond to for this project was split into medical, trauma or other.

Total Calls Submitted – This is the total number of emergency medical services calls that the medical first responder units submitted.

Medical – The call was medical in nature, a problem that is affecting the patient from a body systems aspect.

Trauma – The call is due to a traumatic event that has caused injury to the patient.

Other – This category was used to capture calls that could not be categorized in either medical or trauma categories. The types of calls would include lift assists, rescue operations with a patient, gaining access to a patient.

Non-Qualifying Calls – Includes calls that would not be able to be billed to a patient. No patient found, lift assist, patient refusal of treatment or contact, cleared by paramedics before access to a patient are some examples.

Qualified Calls – These calls could be reimbursable as the crew rendered care, utilized interventions and/or equipment to care for the patient.

Total Calls/Types of Calls

Service	Pilot Start Date	Total Calls Submitted	Medical	Trauma	Other	Non Qualifying Calls	Qualified Calls
Duluth Fire Department	November 4, 2011	835	457	166	45	167	668
Hawley HERT	November 13, 2011	10	9	1	0	0	10
Milan EMS	October 13, 2011	4	0	4	0	0	4
Minneapolis Fire Department	October 19, 2011	1900	1255	312	151	182	1718
Richfield Fire Department	September 23, 2011	871	535	207	58	71	800

Interventions

Medical first responders have all completed at a minimum a Department of Transportation approved first responder curriculum and maintained their certification through refresher classes every two years. Some medical first responder units have higher-level trained personnel such as emergency medical technician basic or intermediate, paramedics, nurses and in some cases physicians.

When administering patient care the above mentioned personnel have been trained to a certain level of training which allows them to work within a scope of practice that is consistent across the country. They have been trained initially at a baseline, the individual medical first response units may have medical directors that allow the medical first responders to receive further training for additional medical interventions or equipment that can assist when delivering patient care.

The medical first response units that participated in the study used the following interventions in their response areas.

Intervention	Duluth FD	Hawley	Milan EMS	Minneapolis FD	Richfield FD
Activated Charcoal		X			
Automatic External Defibrillator (AED)	X	X	X	X	X
AED with 3 lead			X		
Albuterol (Nebulizer)	X	X	X	X	
Aspirin	X	X	X		X
Benadryl			X		
Combitube		X			
Epi-Pen		X	X	X	X
Epi-Pen Jr.			X		
Glucagon		X	X		
Glucometer	X	X	X		X
King Airway	X	X	X		
Lucas Device				X	
Nitroglycerine		X	X	X	X
Oral Glucose	X	X	X	X	X
Oxygen	X	X	X	X	X
Pulse Oximetry				X	X

Res-Q-Pod				X	X
LMA					X

Assisted in Ambulance

The medical first response unit provided extra attendants when requested by the ambulance personnel.

	Duluth FD	Hawley HERT	Milan EMS	Minneapolis FD	Richfield FD
Assisted to Hospital	6	0	0	49	8

Ambulance Stayed in Service

This indicates when medical first responder units were able to keep an ambulance in service because they were able to handle the call and a transport was not needed.

	Duluth FD	Hawley HERT	Milan EMS	Minneapolis FD	Richfield FD
Ambulance kept in Service due to Medical First Responders	37	0	0	156	111

Reported Patient Outcomes

Stayed Same – There was no indication that after patient care there was any change in the patient’s condition.

Improved – It was indicated that the responders did see an improvement or did perform interventions that made stabilized or improved the patient’s condition.

Became Worse – It was indicated that once on scene the patient’s condition deteriorated. This does not indicate and should not be interpreted that it was due to the performance of the responders.

Service	Stayed Same	Improved	Became Worse	Unknown
Duluth Fire Department	600	148	5	81
Hawley HERT	0	4	0	6
Milan EMS	3	1	0	0
Minneapolis Fire Department	1141	516	18	225
Richfield Fire Department	562	206	8	95

What Reimbursement Services Received

Services participating in the study received a reimbursement of \$100 per run that qualified, up to the agreed upon amount. Duluth, Minneapolis and Richfield Fire Departments reached the agreed upon required call volume early in the process due to the number of calls they receive. They did continue to submit data through December 31 which provided more data for the study. Hawley HERT and Milan EMS had fewer runs than what was approximated by the project coordinator. Because not all of the allotted dollars were able to be utilized to reimburse Hawley HERT and Milan EMS for runs, the remaining dollars were split between Duluth, Minneapolis and Richfield Fire Departments which had submitted well over the agreed upon run data.

	Duluth FD	Hawley HERT	Milan EMS	Minneapolis FD	Richfield FD
Awarded in RFP process	\$50,000	\$3,000	\$2,000	\$70,000	\$50,000
Total Number of Qualified Calls	668	10	4	1718	802
Reimbursement Allowed Based Off of Qualified Calls	\$50,000	\$1,000	\$400	\$70,000	\$50,000
Additional Dollars to be Reimbursed for Runs	\$1,200	\$0	\$0	\$1,200	\$1,200

Recommendations

Medical first responder units are a valuable asset to emergency medical services and patient care. However, there are too many variables to keep a consistent standard in regards to what can be expected when working with medical first responder units. The following are recommendations for consideration as we move forward with improving the effectiveness, efficiency and protection of medical first responder units.

- Ensure that medical first responders continue to be an integral part of pre-hospital emergency medical services. This should be done paying special attention to a need of services, current resources available, geographical location and call volumes.
- Ensure medical first responders are appropriately trained and maintain at a minimum medical responder level certification.
- Ensure all medical first responder units have workers compensation and liability coverage. Within the last year, this has become an issue, especially with non-governmental units.
- Ensure each medical first responder unit responding to emergency medical services calls has a licensed medical director and protocols.
- Determine whether medical first responder units should be required by law to register with the state Emergency Medical Services Regulatory Board.
- In the absence of a requirement to register with the EMSRB, develop a process to track providers to assure safe care for the citizens of Minnesota.
- Continue to work with the Emergency Medical Services Regulatory Board and the eight regional emergency medical services boards to assure better regional EMS coordination.
- Continue to explore possible funding and reimbursement options for medical first responder units. Currently, Medicare does not pay first responders for service. This will continue to be a problem because many medical first responder patients are in greater Minnesota.

Glossary

Activated Charcoal - a substance that absorbs poisons from the GI tract.

Advanced Life Support – a level of life support that indicates a higher level of care allowed via a scope of practice and medical direction. Advanced Life Support personnel are usually Intermediates, Paramedics, Doctors or Nurses. They can administer medications and utilize specialized equipment and interventions in the pre-hospital setting on a patient.

Advanced Life Support Quick Response Vehicle – a vehicle that is utilized by an ALS provider to travel to a location where advanced life support is needed. Often the medical provider is traveling by themselves in the quick response vehicle and cannot transport. In most instances, if the need for advanced life support to transport is required the advanced life support provider will ride to the hospital in a basic life support ambulance.

AED – an automated external defibrillator or AED is a portable electronic device that automatically diagnoses the potentially life threatening cardiac arrhythmias of ventricular fibrillation and ventricular tachycardia in a patient, and is able to treat them through defibrillation, the application of electrical therapy which stops the arrhythmia, allowing the heart to reestablish an effective rhythm.

AED with 3 Lead – an automated external defibrillator that has the ability to utilize electrical leads to be placed on the patient’s torso that will provide a reading of what the heart is doing.

Albuterol - a bronchodilator that relaxes muscles in the airways and increases air flow to the lungs.

Aspirin – can be administered by some medical first responders if a patient presents with chest pain.

Basic Life Support - a level of life support that has the ability to utilize certain interventions, equipment and skills in the pre-hospital setting. The level of skill is often relieved by an Advanced Life Support provider in most emergency medical services systems. Depending on the acuity level of the patient, a basic life support provider can provide the necessary treatment needed keeping a advanced life support vehicle in service

Benadryl – an over the counter drug that is an antihistamine. It can be utilized by some medical first responders in responding to an allergic reaction a call

“Call Schedule” - a schedule developed by the medical response unit to indicate who is “on duty” if help is needed.

Combitube – a single use device intended for airway management.

Combitube SA – a single use device intended for airway management for a small adult.

Emergency Medical Technician - EMT-Basic is the entry level of EMS.^[8] The procedures and skills allowed at this level are generally non-invasive such as bleeding control, positive pressure ventilation

with a bag valve mask, oropharyngeal airway, nasopharyngeal airway, supplemental oxygen administration, and splinting (including full spinal immobilization). Training requirements and treatment protocols vary from area to area.

Epi-Pen - EpiPen and EpiPen Jr Auto-Injectors (0.3 and 0.15 mg epinephrine) are for the emergency treatment of severe allergic reactions (anaphylaxis) caused by allergens, exercise, or unknown triggers; and for patients who are at increased risk for these reactions. EpiPen and EpiPen Jr Auto-Injectors are designed for you to use immediately in an emergency, to treat an allergic reaction fast and give you time to get to a hospital or medical center. EpiPen and EpiPen Jr Auto-Injectors are not a substitute for emergency medical treatment.

Glucometer - a glucose meter (or glucometer) is a medical device for determining the approximate concentration of glucose in the blood.

Glucagon – medication used to treat insulin coma or insulin reaction resulting from severe hypoglycemia (low blood sugar).

Interventions - medical intervention means medical procedures or applications that are intended to relieve illness or injury.

Intermediate - EMT-Intermediates are the levels of training between basic (EMT-B) and paramedic

King Airway – a single use device intended for airway management.

LMA – a single use device intended for airway management.

Lucas Device - the LUCAS Chest Compression System is designed to deliver uninterrupted compressions at a consistent rate and depth to facilitate ROSC (return of spontaneous circulation). It delivers automated compressions from first response in the field to ambulance transport and throughout the hospital.

Medical Direction - Medical Direction, or Online Medical Direction, allows a Paramedic or Emergency Medical Technician (EMT) to contact a physician from the field via radio or other means to obtain instructions on further care of a patient. This is used particularly when a patient is in need of care that is not allowed without medical direction under the caregiver's scope of practice.

Medical First Responder – the first medically trained responder that responds to a call for assistance. They are trained personnel that have a basic level of skills, equipment and interventions they can utilize to sustain life until an ambulance or higher trained medical personnel arrive.

Medical First Response Unit - an organized service recognized by a local government unit, whose primary responsibility is to respond to medical emergencies to provide initial medical care before the arrival of a licensed ambulance service. The MRU must be dispatched to the scene of an emergency by a public safety answering point (PSAP) or a licensed ambulance service.

Nebulizer - in medicine, a nebulizer is a device used to administer medication in the form of a mist inhaled into the lungs.

Nitroglycerine - Nitroglycerin spray and tablets are used to treat episodes of angina (chest pain) in people who have coronary artery disease (narrowing of the blood vessels that supply blood to the heart).

Oral Glucose - Oral glucose gel is an over-the-counter medication, consisting primarily of dextrose and water, along with small amounts of other compounds. It is frequently used by diabetics and those with hypoglycemia to raise their blood sugar when it becomes very low.

Oxygen - oxygen supplementation is used in medicine. Treatment not only increases oxygen levels in the patient's blood, but has the secondary effect of decreasing resistance to blood flow in many types of diseased lungs, easing work load on the heart. Oxygen therapy is used to treat emphysema, pneumonia, some heart disorders (congestive heart failure), some disorders that cause increased pulmonary artery pressure, and any disease that impairs the body's ability to take up and use gaseous oxygen.

Paid On Call – a first responder who is paid a certain fee to be available or “on call” when emergency assistance is needed.

Paramedic - EMT-Paramedics, who are commonly referred to as simply "paramedics", represents the highest level of EMT, and in general, the highest level of pre-hospital medical provider. In some instances, a nurse or doctor may be administering aid as a pre-hospital provider. Paramedics perform a variety of medical procedures such as fluid resuscitation, pharmaceutical administration, obtaining IV access, cardiac monitoring (continuous and 12-lead), and other advanced procedures and assessments.

Public Safety Answering Point - a Public Safety Answering Point (PSAP), sometimes called "Public Safety Access Point", is a call center responsible for answering calls to an emergency telephone number for police, firefighting, and ambulance services. Trained telephone operators are also usually responsible for dispatching these emergency services.

Pulse Oximetry - pulse oximetry is a non-invasive method allowing the monitoring of the oxygenation of a patient's hemoglobin.

Res Q Pod - the ResQPOD is an impedance threshold device (ITD) that provides Perfusion on Demand (POD) by regulating pressures in the thorax during states of hypotension.

Rescue Squad – a vehicle in which medical first responders utilize to transport personnel and equipment.

“Run” – a term used for a emergency call or a patient contact that emergency personnel use.

Scope of Practice - a terminology used by national and state/provincial licensing boards for various professions that defines the procedures, actions, and processes that are permitted for the licensed individual.

Specialized Medical Response Unit - an organized service recognized by an EMSRB-approved authority other than a local government unit, that responds to medical emergencies as needed or required by local procedure or protocol.

Squad Car – a law enforcement vehicle.

Vitals - vital signs are measures of various physiological statistics, often taken by health professionals, in order to assess the most basic body functions. Vital signs are an essential part of a case presentation. The act of taking vital signs normally entails recording body temperature, pulse rate (or heart rate), blood pressure, and respiratory rate, but may also include other measurements. Vital signs often vary by age.