

## Healthy Greenville Grant Components

—Due July 17, 11:59 p.m.

### Integrated Prehospital Care Response

#### 2 Sentence Summary of the Project (300)-300

Enhancing first responder services via quality training and equipment, adds 900 fire fighters and 266 road deputies to the prehospital chain of care, revolutionizing access to healthcare thru standardized response configurations and abilities while improving and expanding the healthcare workforce.

#### Statement of Need (2,000)-1989

- Describe the size and severity of the need
- Describe the cost borne by society in lives
- List monetary cost borne by society

Greenville County allots 43% of its budget to public safety, including EMS. Recognized nationally and internationally for its success Greenville County EMS (GCEMS) is the only transport service in the largest, most populous county in SC authorized by State law to respond and transport for 911 medical emergencies. Our population is growing and aging, increasing community emergencies and deaths. The Coroner's Office saw a 56% spike in natural deaths resultant of medical conditions from 1,900 in 2010 to 3,394 in 2016. In 2016, GCEMS ran more than 67,000 incidents (183 per day) over 789 square miles, 69% of which were time sensitive and relevant to reducing morbidity and mortality, making well trained and equipped first responders vital to access to prehospital care.

A leading cause of high acuity calls in our County and across the US is Sudden Cardiac Arrest (SCA), killing nearly 300,000 people annually at a direct hospital cost \$2.2 billion. The indirect costs to a victim's family and employer are multiples of this in terms of insurance premiums, lost productivity, and other indirect costs. Current SCA survival in Greenville County is a celebrated 32%; however, as GCEMS and fire fighters collaborated on 405 cardiac arrest responses in 2016, obtaining a return of spontaneous circulation in 44% of cases, only 20% of those cases were bystander witnessed and found in a shockable rhythm.

Another emerging episodic emergency addressed via this project is opioid overdose. Both law enforcement & fire departments have capacity to administer Narcan, an opioid antidote reversing the effects of an opioid overdose if trained and present.

This project trains up to 1,200 fire fighters in standardized response protocols/configurations and equips 266 road deputies with AEDs, revolutionizing the County's ability to utilize appropriately trained medical first responders, improving access to care and patient outcomes, and realizing the Triple Aim initiative in healthcare.

#### Location\* (1,000)-894

- **Specific project location(s) - Area of Service**
- **Facility type and address**

First Responders and sheriff's deputies are strategically located county-wide at all times.

Fire personnel training courses would be conducted by Greenville Health System, LLC, a public, not-for-profit academic healthcare delivery system at the various fire districts at times convenient to personnel. A list of fire districts with stations' physical addresses is attached.

Physician oversight during the clinical training of the first responder personnel will be contracted through GHS' Clinical University. GCEMS will provide quality control measurements for actual call responses and clinical performance. Quality control improvements regarding the clinical training will be recommended under the direction of Greenville County Medical Control.

GCEMS is located at 301 University Ridge, Greenville, SC, 29601.

GHS Clinical University is located at 607 Grove Road, Greenville, SC 29605.

#### Who will this project serve?\* 250-248

- **Specific demographic, age and number of people**

##### **Anyone in need of acute episodic prehospital care**

The population is 490,000 with significant commuter and tourism. The project improves care rendered county-wide regardless of social determinants when an unexpected illness or injury requires stabilization to prevent further morbidity or mortality.

#### How will your organization identify the population to be served?\*

**All medical 911 Calls are received by GCEMS's Communications Center, triaged for response configuration, and in addition to GCEMS, are dispatched to first responder agencies accordingly. All resources are dispatched in accordance with State law.**

#### Why this Project? (5,000) -5082

- **State the reasons your organization chose this approach to address the need. For new programs, describe how the program model was developed with supporting research or evidence of effectiveness of the model, if available.**

Enhancing first responder services via quality training and equipment, Greenville County includes up to 1,200 fire fighters and 266 road deputies in an integrated prehospital chain of care, revolutionizing access to healthcare through integrated Advanced Life Support (ALS) and Basic Life Support (BLS) response configurations, improving and expanding the healthcare workforce.

While GCEMS is celebrated as an industry leader in prehospital care, EMS is often used as access to care and the county's population, including tourists and commuters continues to grow and age, straining the system and inhibiting critical response times in a massive and diverse geographical territory. Strategies are underway to refine population health, but this grant provides an incredible opening to create a fully integrated prehospital care chain of response for acute episodic care immediately and profoundly impacting access to care and health outcomes by increasing the healthcare workforce.

Regardless of prevention efforts, unexpected illnesses and injuries always occur. GCEMS responds to nearly 67,000 incidents annually across 789 square miles. The call volume for GCEMS continues to increase as evidenced by a 7.3% jump in the number of GCEMS responses in 2016 compared to 2015. An abundant first responder system trained, equipped, and positioned to stabilize and initiate quality care to patients county-wide would dramatically aid the system's in meeting increasing demands.

First responders in Greenville County are currently fragmented in terms of provider certification, scope of practice, equipment, and continuing education. There are 30 separate fire districts responding in Greenville County with specific designated jurisdictions and varying first response capabilities. The Department of Health and Environmental Control (DHEC) regulates licensed First Responder agencies satisfying training and equipment requirements. Licensure by is not required by Greenville County, but is strongly encouraged to standardize medical training for fire departments.

GCEMS currently conducts continuing education for 200 certified fire personnel at no cost, but only 11 of the 30 fire districts are licensed because of the constraints of educational courses conducive to fire personnel work schedules and required equipment costs. GCEMS's training capacity is also beyond limits and cannot accommodate an additional 900 to 1,000 fire service personnel. This grant provides an optimal opportunity to establish sustainable fire service training, protocols, equipment and participation, while freeing up GCEMS resources for system demands. The goal is for all districts to train and maintain 80% of their responders as certified first responders acting within an integrated prehospital care response configuration with clinical oversight throughout the training process and in the field.

Factors that contribute to survival and long-term health outcomes in acute episodic care are predicated on a quality response system with trained providers equipped with proven lifesaving medical devices. Survival rates greatly improve with programs designed to ensure provider competency, incorporate a team approach to resuscitation, and procure essential tools that support respiratory and cardiovascular systems. Survivability in cardiac arrest, for example, decreases 10% every minute care is not administered.

Immediate access to defibrillators is lacking in Greenville County. In SCA, the heart suddenly and unexpectedly stops beating, generally because of a problem in the electrical system of the heart. Most people die from it within minutes; but, rapid treatment of SCA with an automated external defibrillator (AED) can be lifesaving, sending an electric shock to the heart to restore a normal rhythm. Current survival in Greenville County for patients experiencing SCA with a shockable rhythm is 32%. Survival rates for those receiving some form of intervention (CPR or

AED application) prior to EMS arrival increases to 40%, demonstrating clear value for additional trained and equipped personnel.

Although GCEMS has made great strides in cardiac care and is recognized as a national industry leader, participates in by-stander training, and has recently instituted PulsePoint in the county, this grant allows GCEMS to further integrate and expand law enforcement in acute episodic prehospital care by equipping and training 266 road deputies with AEDs. Sheriff's deputies drive about 7,400 miles per year and are responding to EMS calls more frequently each year (from 1,447 calls in 2014 to 1,605 calls in 2015 and 1,977 calls in 2016). This element of access to care is especially vital in rural and residential areas of the county with little access to AEDs.

This proposal's initiatives optimize resources, meet medical priority needs, improve response times to the most acutely ill, reduce costs in acute episodic care, and maximize public resources invested in EMS, fire and law enforcement.

- **For ongoing activities, describe your past success. Use an appendix, if necessary, for extra information such as detailed results of a program you are replicating**

**GCEMS is already working with first responders and other state emergency medicine departments on cardiac care and sepsis protocols. See the attachment for more details.**

**Other Sources:\* (1,000)**

**List all other sources:**

- **Source name, address**
- **Contribution Amount**
- **Timing and duration of contribution**

**(If none, list "None")**

Greenville County recognizes the value and the need to bringing fire departments into the emergency response configuration. As independent political subdivisions with taxing authority, the fire departments provide a valuable community resource, but not all districts can commit the financial resources to up fit and obtain licensure, negatively impacting uniformity in response protocol. Once program materials and courses are purchased and put into place, Greenville County will commit to contributing 50% of the program operating costs beginning in years 3 and 4 of the grant totaling \$681,000. Greenville County will also commit to continuing the program upon the grant completion.

Greenville is a political subdivision of the State of South Carolina located at 310 University Ridge, Greenville, SC, 29605.

**GOALS, STRATEGIES AND OUTCOMES (5,000)-3155**

**What are the goals and strategies to achieve the project listed above?\***

Many residents and visitors use EMS for access to care; thus, standardizing and improving first responder capabilities and presence will revolutionize access to quality prehospital care, positively affecting lives of all populations countywide regardless of current health, socioeconomic status, or social

determinants. This proposal immediately addresses many barriers to access to healthcare currently inherent in the community. It improves care rendered when unexpected illness or injury occurs and when critical-thinking skills are required to stabilize and prevent further morbidity or loss of life, and will also positively impact long-term patient health outcomes. The project injects 900-1,000 additional certified first responders into an integrated chain of response and adequately equips first responders and law enforcement officials to act quickly in some of Greenville County's most common life threatening situations (e.g. cardiac arrest, anaphylaxis, and opioid overdose). Moreover, improved services through training and equipment will likely attract more individuals to serve as responders, expanding this critical existing workforce.

Each of the projects' goals and resultant strategies will enhance the existing system of patient care through Greenville County's first responder agencies:

- 1. Inventory current levels of service:** Determine agencies interested in upgrading their level of care and outline resource needs to achieve goals.
- 2. Establish EMT certification and re-certification courses:** Through the GHS Clinical Health Science Center, courses will be offered to fire district personnel no cost to the provider throughout the County. Classes will be offered based on geography, number of students, and departmental work schedules.
- 3. Provide initial outlay standardized patient care equipment:** Ensure that fire personnel serving as first responders have County-wide consistency, including replacement supplies for replenishment when expended. Replacement supplies will be stocked on GCEMS ambulances and exchanged prior to leaving the incident scene to ensure continued readiness.
- 4. Develop first responder patient care protocols:** Develop protocols that serve as care guidelines to ensure all providers understand expectations and that care is standardized.
- 5. Establish a physician-led quality improvement program:** Monitor the training system and provider performance, as well as protocol compliance. Identify areas for improvement. Develop programs and systems of care that serve to evaluate, enhance, standardize, and further assess the quality of first responder services in Greenville County. Collaborate with GCEMS to help identify and institute appropriate system or educational corrective measures.
- 6. Implement monthly continuing education courses:** Use adult learning methodology, including some asynchronous courses when appropriate to ensure each provider's maintenance of certifications.
- 7. Expand AED access:** Equip and train 266 Sheriff's road deputies with AEDs to reduce the time from collapse to intervention by restarting a heart quickly. Begin with the most rural areas and measure AED deployment.

**Outcomes:\* (5,000)-4046**

**Please be brief and describe anticipated measurable outcomes (results) of your project.**

- **How will the health of Greenville County be different if the project is successful?**
- **How will this project improve the health-related care, health education or health research of the people it will serve?**

This project allows first responders in Greenville County to better respond to acute episodic medical emergencies and accidents which will always occur. A unified, competent, standardized first responder system of care driven by quality initial and continuing education, a robust physician-led quality improvement program, and allocation of quality equipment that serves to stabilize patients and save lives will have an immediate and measurable impact on morbidity and mortality.

**The variance of fire district medical response capability is significant due to a multitude of factors: equipment, funding, resources and training.** This grant, endorsed by the Greenville County Fire Chief's Association, will help to alleviate the financial burden of providing first responder medical care.

Additionally, the Greenville County Sheriff's Office road deputies are trained in basic CPR, but are not currently equipped with the most proven life-saving equipment in the event of a cardiac attack. This grant affords the opportunity to equip and train all road deputies with the proven life-saving technology of an AED county-wide.

Healthy populations are achievable; however, problems exist today for acute episodic care. The proposal serves to preserve and sustain individual health, and strives to realize the following outcomes:

1. Increase the number of trained first responders available to quickly reach the scene of an acute episodic accident or illness. The goal of the project is to train at least 80% of the personnel at each fire district to EMT level. Develop and implement a comprehensive continuing education program that is required for each provider's maintenance of certification. This will be accomplished through GHS Clinical University by offering training at convenient locations and times to fire personnel at no cost to the fire services.
2. Better equip first responders. This proposal would ensure that equipment is standardized and equipment costs are not a barrier to providing first response services. This would providing the initial outlay of medical devices proven effective in the field environment at the first responder level, e.g. automatic external defibrillators (cardiac arrest), epinephrine autoinjectors (anaphylaxis), airway adjuncts (artificial ventilation), naloxone atomizers (opioid intoxication), and splints/immobilization devices. Additional replacement supplies would be provided to each Greenville County ambulance so that items used could be immediately replenished before patient transport. Any first responder service would be eligible for the equipment and replacement program after 80% of their personnel roster has completed the training components and EMT certification is achieved.
3. Standardize first response protocols across Greenville County to create an integrated and dependable prehospital care chain of survival. The proposal would develop and distribute first responder patient care protocols that will serve as useful guidelines for all providers. This will ensure that all care is consistent throughout the County and residents can expect high quality of care regardless of geographical location, socio-economic status or other social determinants. A physician-led quality improvement program monitoring the performance of all first responders to ensure protocol compliance, including auditing high priority and non-priority responses will ensure continued effectiveness and reliability.

4. Disperse AEDs County-wide to improve the chances of survival for those experiencing sudden cardiac death. Intervention with an AED has been scientifically shown to improve survival and functional outcome when cardiac arrest occurs, the time from arrest to AED use, however, is critical for this intervention to be successful.
5. Realize a reduction in morbidity and mortality due to acute episodic illness or accidents in Greenville County. This can be benchmarked against current ED discharge statistics, GCEMS statistics, and Greenville County Coroner's reports.

**For general operating support requests: \* (1,000) -976**

**Describe how your organization will assess its overall success and effectiveness during the grant period.**

**(Respond "N/A" if not applicable)**

The proposal includes the development and distribution of first responder patient care protocols as guidelines for all providers to ensure all care is consistent and available at all times throughout the County. To assess the validity of the protocols and provider compliance, the program establishes physician-led oversight and quality improvement in partnership with GCEMS to monitor clinical performance of all first responders, including auditing all high priority and random non-priority calls.

Areas for improvement will be identified by GCEMS's Medical Control Physician and corrective measures will be instituted accordingly in a timely fashion. Statistics and outcomes in time sensitive and life-threatening illnesses and injuries will be benchmarked against current system outcomes. Additionally, statistics will be reviewed for Sheriff's Office EMS calls and with the Greenville County Coroner's Office for response improvements and reduction in mortality rates.

**Include specific output and outcome measures that you plan to collect\* (1,000)-768**

- **What are the anticipated measures?**
- **How will the measures be used to determine if the organization or program/project was successful**

The program will assess and monitor each agency's success rate for each of the following measures:

1. Completing EMT training and successfully becoming state certified, and participation and completing the continuing education program required by South Carolina DHEC.
2. Equipment used and replaced
3. Outcomes on priority calls including:
  - a. Cardiac arrest (National CARES Registry)

- b. Acute myocardial infarction (STEMI times)
- c. Stroke identification
- c. Trauma care
- d. Sepsis identification
- 4. Compliance to protocols based on call documentation and direct observation
- 5. Patient satisfaction surveys distributed post-call
- 6. Employee surveys distributed bi-annual
- 7. AED deployment and usage, including number of replacement pads
- 8. GCEMS and Coroner's reports

**NEW PROJECT / EXISTING PROJECT (ENHANCED) / ON-GOING PROJECT (2,000)-1876**

**New Projects:\***

- **Provide a project plan**
- **Provide a timeline for implementation**

**If not a new project, enter "N/A"**

Year 1 (1<sup>st</sup> 6 months): Identify response agencies; inventory current service levels; determine agencies interested in upgrading levels of care; and, determine resource needs for upgrades.

Year 1 (commencing in first 6 months and continuing for duration of project): Establish emergency medical technician (EMT) certification courses throughout the County scheduled based on geography, agencies, number of students, and work schedules with multiple training courses offered throughout the year at no cost to the service or employee and at locations proximate to the provider's response jurisdiction (fire station or similar venue).

Year 1: Provide consistent medical equipment at no cost to the service, including medical devices proven effective in the field. Additional replacement supplies provided to each GCEMS ambulance to replenish items immediately prior to patient transport. Any first responder service is eligible for equipment and replacement supplies after 80% of their personnel roster has achieved EMT certification.

Year 1: Develop and distribute standardized first responder protocols ensuring all providers and care is consistent throughout the County.

Year 1 and Ongoing: Establish a physician-led quality improvement program monitoring performance of all first responders for protocol compliance under the direction of the Medical Control Physician, including an audit of all high priority and random non-priority responses. Areas for improvement identified and system or educational corrective measures instituted accordingly and in a timely fashion.

Year 2 Forward: Develop and implement a comprehensive continuing education program required for providers' maintenance of certification. Courses offered each month at convenient



scheduled times using adult learning methodology, including both synchronous and asynchronous classroom instruction formats.

#### **Tools to be used:\* (1,000)-897**

- **Identify the tools you will use to learn from or evaluate your program and organization (records, surveys, interviews, pre-and post tests, community feedback, etc.)**
- **Who will conduct the evaluation?**

GCEMS currently utilizes an electronic patient care reporting (ePCR) software vendor for documentation of patient encounters as well as for quality assurance and data collection. This software allows for call review and protocol compliance based upon documentation. A standardized ePCR vendor will be utilized across all agencies to satisfy the need for quality assurance, protocol compliance and patient outcomes.

In addition, patient surveys will be conducted via GCEMS' third party billing vendor EMS Management and Consultants to monitor patient satisfaction.

Employee satisfaction and feedback will be conducted via an online survey.

Equipment that is used by fire departments and law enforcement that is replaced by GCEMS will be monitored and tracked by GCEMS logistics via an electronic format.

Finally, physician release time will be utilized to develop educational and quality improvement programs.

#### **ORGANIZATION LEADERSHIP AND STAFF (3,000)-2084**

##### **Organization Leadership\***

**Name, title, and background of the people, from your organization, leading the project.**

- **If specific expertise or credentials are needed, consider attaching staff biographies**

**Marty Lutz, M.D.** finished his Emergency Medicine residency in Ohio in 1984 and moved to Greenville that same year. He continues to be a practicing Emergency Medicine Physician with the Greenville Health System. He is Board Certified in Emergency Medicine and has been a fellow of ACEP since 1987. Dr. Lutz is past Chairman of the Department of Emergency Medicine, and was a member of the GHS University Medical Group original board of directors. He has served on multiple GHS Committees in the past, including Medical Executive, Credentials, Trauma and Emergency Preparedness to name a few. He has served as Medical Control Physician for Greenville County EMS and multiple DHEC licensed first responder agencies since January of 2009.

**Tom Blackwell, M.D.** has 42 years of experience in EMS, 25 as a physician medical director. Dr. Blackwell established the first hospital-based EMT-Paramedic

training program in North Carolina (1995) and has been in academic medicine for 28 years, and has trained hundreds of EMTs, paramedics, and emergency medicine residents and fellows since 1992. With an extensive background in prehospital education delivery (initial and continuing education), Dr. Blackwell has established quality improvement programs in many systems. He currently serves as the Assistant Dean for the USC School of Medicine Greenville and directs all prehospital medical activities for the GHS system.

David T. Gault, EMS Director for Greenville County since June 2013, initially began his prehospital health care career in 1978 in Spartanburg, SC, where he received multiple training certifications and advanced through the ranks at Spartanburg EMS to Lieutenant. Mr. Gault joined Greenville County EMS in March 1991 and has served as Paramedic, Shift Supervisor, Special Operations Coordinator and Deputy Director of Operations prior to becoming the EMS Director. A graduate of the Ambulance Service Manager (ASM) Program conducted by The Management Training Institute of the American Ambulance Association, he has almost 40 years of experience in emergency services.

**Project Staff:\* (2,000)-1416**

**Briefly describe who will get the work done (staff / volunteers)?**

**Description of services to be performed by each.**

**GCEMS:**

- Greenville County's Finance Department will manage all grant funds and reporting.
- GCEMS Logistics staff will provide initial outlay of standardized patient care equipment and maintain records and administrative oversight for the replacement of disposable basic level medical supplies used by the First Responder Agencies.
- GCEMS's Medical Control Physician will establish a physician-led quality improvement program for first responder performance protocol compliance.
- GCEMS Logistics staff will equip 266 Sheriff's road deputies with AEDs. Deployment will begin with the most rural areas and measure AED deployment.
- Greenville County's Fleet Management will maintain training vehicles.

**GHS's Department of Emergency Medicine:**

- Inventory current levels of service with Fire Districts, assess for their interested in upgrading their level of care and needed resources to achieve the goal of 80% certified personnel, and transition current certified and licensed fire personnel to the new training program.
- Hire and supervise 3 full time trainers and establish EMT certification and re-certification courses.
- Establish a physician-led quality improvement program for all training and educational courses.
- Train Sheriff's Deputies in the use of AEDs.

## Collaborative Partner #1: Description of Collaboration (5,000)-1371

- Name of Organization
- Address/Phone
- Website (if applicable)
- Primary Contact
- Will this partner contribute funds to the project? (Please note this contribution in the project budget)
- Role of the Collaborative Partner:
  - What role will this partner play in the project?
  - How will you work together to govern the project?
  - How will the budget will be distributed among the fiscal agent organization and the partner organizations (if applicable)?

Greenville Health System, Department of Emergency Medicine, Health Sciences Center

701 Grove Rd. Greenville, SC 29605

[www.GHS.org](http://www.GHS.org)

Tom Blackwell, MD

GHS will contribute in-kind support for educational programs in the form of equipment, curriculum development, examination preparation, scheduling, and instruction.

GHS will provide physician-led oversight for the educational components for course integrity, to ensure that content follows South Carolina (DHEC) standards, and to promote consistency across the County for initial and all continuing education programs.

GHS, Greenville County EMS medical director and administration, and the Fire Chief's Association and the Greenville County Sheriff's Office will collaborate on all aspects of the program including communication, delivery of courses, protocol compliance, problem resolution, certification, -and quality improvement.

Greenville County will disperse funds to GHS to manage and provide oversight to all training and education components. Funds will be allocated for EMT and CPR/AED course instructors, development and administration of a County-wide first responder response and continuing education program, and clinical release-time for physician oversight with regards to education and quality improvement programs. Funds for training vehicles required for program administration and management will be transferred to GHS as well.

**Has your organization worked previously with Collaborative Partner #1? (500)-511**

**Yes / No / Not applicable**

**If yes, briefly describe the collaboration.**

Greenville County and GHS have a long history of successful collaborative projects. One of the best examples is the Community Paramedic Program, a grant-funded program developed and implemented by the partners to reduce emergency department visits, EMS calls, and in-patient hospital days and connects patients to a primary care medical home. The program targets patients who are under or uninsured with multiple chronic health conditions who utilize EMS and emergency departments for primary care.

### **CAPITAL CAMPAIGNS (5,000)**

**Is your request for capital (or a capital campaign)?\***

**If "Yes", see below.**

**Yes**

**No**

#### **Capital Campaigns (if applicable)**

**Capital Campaign requests are designated for equipment, construction, renovation, or improvement of a property.**

- **Provide a case statement for the project that discusses the feasibility and cost of the capital campaign and its implications in relation to the organization's ongoing operational expenses.**
- **Identify regulatory approvals, if required.**
- **Describe plans for funding the ongoing maintenance of the new capital project.**
- **Summarize this capital campaign including the campaign goal, amount raised, beginning and ending dates.**
- **Are you using a campaign consultant? Who?**
- **Who are the members of your Campaign Committee?**

### **SUSTAINABILITY (3,000)-2715**

**A sustainability plan for continuation of the program/project\***

- **Tell us how you will fund the project after the period of our grant funding (other financing sources, etc.)**
- **Beyond financing, suggest what will be the long lasting outcomes or mechanisms by which the change is sustained**

Greenville County wholeheartedly believes that a successfully integrated first response program will increase access to care, save lives, create healthier long-term outcomes for patients, and reduce hospital stays and medical expenses, making the program indispensable to the public health and safety and aligning the program will all participants and both health systems' missions and goals. Thus, Greenville County is committed to continue the program by funding it and/or seeking continued funding sources and partners upon realizing the anticipated success as detailed above.

This grant is written to establish a program that Greenville County, the fire districts, and the Sheriff's Office can sustain into the future, expanding the healthcare workforce and the ability to provide more and better help for acute episodic prehospital care needs. The proposal provides the majority of needed resources in the first two years, after which Greenville County is prepared to assume 50% of operating costs for the next two years and then into the foreseeable future.

Greenville County currently conducts continued in-service training for the 11 fire districts with certified EMT trained personnel at no cost, which is a strain on the system, but important to patient outcomes. Relieving GCEMS of training fire personnel frees up resources to better serve GCEMS and creates a natural partnership in the prehospital chain of survival which will become common place in Greenville County. The fire chief's association has voted unanimously to support this proposal in recognition of the need for more resources and the ability to more formally integrate with prehospital care.

The Sheriff's Office's inclusion of 266 AEDs available throughout the county expands the likelihood of residents and visitors surviving a major cardiac event, one of the leading causes of death in Greenville County. After outfitting the entire road deputy fleet, the Sheriff's Office is committed to plan to equip new positions added and replace equipment as recommended based on usage and shelf-life standards. Additionally, County representatives have already begun discussions with Duke Endowment, community grant programs, and some of the large area corporate donors to expand AED prevalence across the County.

The success realized via this project will also make Greenville County a more attractive environment for first responder healthcare employees, helping GCEMS, fire and law enforcement attract the best and brightest employees in the field and retain them with high levels of competency and morale. This will undoubtedly impact the quality of life and health within the county, positively impacting the County as a whole.

### Detailed Project Budget

- **Your grant application must include a budget and budget narrative. The budget narrative explains the numbers in the budget and what assumptions underlie the budget.**
- **Your budget MUST be submitted on the budget form provided as an attachment to the email invitation to apply**

- All budgets, whether for general operating or project support, should include both revenue and expenses.
- The budget should be for the same time period as your seek grant support

Expense	Year 1	Year 2	Year 3*	Year 4*
3 FTEs-Education	\$ 225,000	\$ 225,000	\$ 112,500	\$ 112,500
Fire Fighter Training Materials	\$ 200,000	\$ 200,000	\$ 100,000	\$ 100,000
Response Vehicle Equipment	\$ 75,000	\$ 75,000	\$ 38,000	\$ 38,000
Restock Supplies	\$ 25,000	\$ 25,000	\$ 12,500	\$ 12,500
Physician Oversight Release Time	\$ 150,000	\$ 150,000	\$ 75,000	\$ 75,000
Deputy Defibrillators	\$ 200,000	\$ 175,000		
2 Training Vehicles, Fuel & Maintenance	\$ 175,000	\$ 12,000	\$ 6,000	\$ 6,000
Total	\$ 1,050,000	\$ 862,000	\$ 344,000	\$ 344,000
			<b>Total</b>	<b>\$ 2,600,000</b>

\* County matches

\*\*\$1,500/AED (includes case/mount)=266 AEDs

#### Allowable Costs for Grant Budget

Program costs can include expenditures on activities related to the functions of the project, including:

- Contractor/vendor fees for work pertaining to the project
- Strategies and methods to achieve the project's goals
- Personnel who will manage or work on the project
- Indirect costs (limited to no more than 10%) will be considered on a case-by-case basis

#### Budget Narrative\* (3,000)-3044

The budget narrative explains the numbers in the budget and what assumptions underlie the budget.

All expenditures included in the proposal are direct program costs aimed at removing barriers to including fire and law enforcement personnel in prehospital response configurations.

1. Greenville County will contract with GHS's Department of Emergency Medicine, Health Sciences Center to employ 3 full-time trainers between \$50,000 and \$60,000 annual salary with 30% fringe benefits totaling \$225,000 annually. Trainers will certify and conduct continuing education training for up to 1,200 fire fighters, traveling to fire districts with all training materials and equipment.
2. Travel to fire districts requires the 2 transport vehicles such as a Ford Transit or similar sized and cargo capacity vehicle. This budget provides for \$80,000 (\$40,000 per vehicle) for the purchase and up fit of these vehicles and allows for \$5,000 for annual fuel and maintenance.
3. This project's curriculum will teach the Emergency Medical Technician (EMT) Course in compliance with the National EMS Scope of Practice Model. The budget allows for \$200,000 per year in training materials and testing fees. Renewal of certification requires an on-time application with proof of requisite hours of continuing education and a fee of \$15.00.

4. Fire departments pursuing DHEC licensure as a First Responder Agency must carry a minimum amount of basic life support supplies and equipment on each response vehicle as outlined in State Regulation 61-7. At a minimum, the initial cost outlay for outfitting a response vehicle to the BLS level is about \$5,000 not including the cost of medications or fluids with GCEMS cannot provide due to regulations. Year 1 of the budget provides \$75,000, which will bring 15 vehicles online or several more vehicles into compliance with standardized GCEMS equipment. As more departments become eligible for equipment, the budget provide for \$125,000 in Year 2 to bring up to 25 fire response vehicles online. The budget assumes the additional of 15 vehicles in year 3 and 4 at \$75,000 each. The County is paying 50% of the costs at this time.
5. Program stability is dependent upon the ability of GCEMS to immediately restock used supplies. First responder vehicles should always be stocked with disposable basic level medical supplies to include: airways, face masks and suctioning items, bandaging and splinting materials, cervical collars and gloves. The budget allows for \$25,000 per year for this.
6. All training of first responder personnel will be overseen by board certified physicians at GHS's Health Sciences Center. Field performance will be overseen by GCEMS's Medical Control Physician. This grant expects physicians to input **8 hours/week at a cost of \$150,000** per year to for physician release time.
7. Finally, this project supplies and trains 266 Greenville County Sheriff's Road Deputies in the first two years with AEDs allotting \$1,500 per AED with a carrying case or appropriate mount.

### **Organization Mission Statement\* (1,000)-172**

Our mission, as compassionate professionals, is to provide exceptional pre-hospital care in a timely and efficient manner to the citizens and visitors of Greenville County.

### **Organization Vision Statement\* (1,000)-370**

Greenville County EMS (GCEMS) will respond to the changing needs of the community in which we serve and the healthcare continuum of which we are apart. Moreover, GCEMS will be a leader in innovative, evidence-based clinical practice that improves the lives of those we serve; accomplishing this through continuous quality improvement, education, training and research.

### **Impact Goals\***

#### **Key Organizational Goals(1,000)-963**

1. Continue to refine and improve the EMS system by evaluating and implementing EMS resource utilization, as well as response and coordination improvements designed to maximize the functional capacity and efficiency of a tiered EMS Delivery Model.

2. Continue to refine field collection and transmission of patient and medical care data to receiving facilities and billing vendor.
3. Continue to cultivate mutually beneficial business relationships and build partnerships with allied agencies, other healthcare providers and area health systems to streamline emergency response and efficient patient referral patterns and prepare for a community wide 'all hazards' response and continuity of operations plan.
5. Link Key Performance Indicators to measurable clinical outcomes for high acuity patients.
6. Continue to improve the performance of field medical providers and communications center staff through an effective quality measure and assessment process.

### Major Organization Accomplishments\* (2,000)-1999

#### \*Focus only on the past 5 years

GCEMS received the Mission Lifeline Gold *Plus* Status from the American Heart Association (AHA) in late April 2017, by meeting the gold status for at least two years in a row and an additional measurement called the 'Plus' measure. This acknowledgment from the AHA recognizes the continued achievements in the pre-hospital care of cardiac/STEMI patients, the ability of GCEMS to apply the most up-to-date evidenced based treatment guidelines to improve patient care and the collaboration between GCEMS and hospital providers to improve the health and well-being of our community.

GCEMS's Communications Center holds an accreditation as an Emergency Medical Dispatch Center of Excellence from the International Academies of Emergency Dispatch: **one of only 154** EMS Communication Centers in the world with this distinction for comprehensive implementation and compliance of the Medical Priority Dispatch System.

The American Heart Association recognized GCEMS for the **3rd** consecutive year, bestowing the 2016 Mission Lifeline EMS Gold Level Recognition GCEMS for continued achievements in pre-hospital care of cardiac/STEMI patients.

In January 2016, GCEMS was awarded the 'Best EMS Professional Research Presentation' at the National Association of EMS Physicians annual meeting for the research in prehospital blood culture collection by paramedics. This tremendous accomplishment demonstrates the clinical care delivered by GCEMS field providers in collaboration with other healthcare partners. Greenville County's research in the prehospital treatment of sepsis shows potential to significantly decrease sepsis mortality within the community. In addition to this research, GCEMS Training Coordinator, Jason Walchok, authored a manuscript on "CMS sepsis core measures initiated prior to hospital arrival" which was accepted for publication in the another national EMS industry prehospital trade journal. This research will continue to have a far reaching effect industry wide. The article is attached.

#### Other

- **For organizations with annual budgets over \$500,000, a copy of Audited Financial Statements for the most recent fiscal year—Shannon To get**
- **Letters of support, recent media articles.**
- **Please use discretion in limiting additional attachments**



