SCAC Awards Application

August 3, 2026

This applicaton is for:	J. Mitchell Graham Memorial Award
Project Title	Horry County Fire Rescue Prehospital Blood Program
County or Counties	Horry
Application Contact	Ben Lawson, Assistant Chief of EMS Operations
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Project Written Submission

Project Summary

Horry County Fire Rescue (HCFR) implemented a prehospital Blood Program to improve outcomes for patients experiencing life-threatening hemorrhage, one of the leading causes of preventable death following trauma and medical emergencies. By carrying low-titer O-positive packed red blood cells and plasma on frontline emergency response units, HCFR can begin life-saving blood transfusions in the field, often minutes to hours before a patient would otherwise receive blood products at a hospital.

The program was developed through a collaborative partnership with regional hospitals, blood suppliers, medical director, and EMS personnel. Extensive planning, policy development, equipment acquisition, and specialized training were required to ensure the safe storage, administration, and tracking of blood products in the prehospital environment. HCFR personnel were trained to rapidly identify patients suffering from hemorrhagic shock and initiate transfusions during critical moments when every minute matters.

The importance of this program to the community cannot be overstated. Horry County encompasses more than 1,200 square miles and serves a growing population, millions of annual visitors, and numerous rural areas where transport times to definitive care can be significant. The ability to administer whole blood before hospital arrival bridges a critical gap in care and provides patients with the best opportunity for survival and recovery.

Since implementation, the Whole Blood Program has enhanced HCFR’s ability to deliver advanced, evidence-based emergency medical care directly to residents and visitors. The program aligns with national best practices in trauma resuscitation and demonstrates HCFR’s commitment to innovation, clinical excellence, and continuous improvement in patient care.

By bringing hospital-level interventions to the patient's side, HCFR's Whole Blood Program represents a transformative advancement in emergency medical services and reinforces the agency's mission of providing the highest quality care to the community when it is needed most.

Project Effort/Difficulty

To accomplish the objectives of the Prehospital Blood Program, Horry County Fire Rescue (HCFR) undertook a comprehensive, multi-year effort involving clinical planning, stakeholder collaboration,

equipment procurement, policy development, training, and quality assurance. The primary goal was to safely and effectively bring blood transfusion capabilities into the prehospital environment, allowing critically injured and ill patients to receive life-saving treatment before arriving at a hospital.

A significant challenge was establishing the infrastructure necessary to safely store, transport, monitor, and administer blood products in the field. Blood products require strict temperature controls, inventory management, and regulatory compliance. HCFR developed detailed clinical protocols, quality improvement processes, and logistical procedures to ensure patient safety and product integrity. Additional challenges included coordinating blood product availability, training personnel, and integrating the program into daily emergency operations without disrupting existing services.

The county's efforts extended well beyond purchasing equipment. HCFR worked extensively to educate personnel, develop evidence-based treatment guidelines, establish monitoring and reporting systems, and ensure all operational, medical, and regulatory requirements were met. The program required substantial commitment from agency leadership, field personnel, medical direction, and administrative staff.

The success of the project was made possible through strong partnerships with healthcare and community organizations. HCFR collaborated closely with local hospitals, trauma centers, blood suppliers, and physician medical directors to develop protocols and establish a sustainable supply chain for blood products. These partners provided clinical expertise, guidance on best practices, and support for program implementation. Their participation allowed HCFR to leverage regional healthcare resources and create a seamless continuum of care from the scene of an emergency to definitive hospital treatment.

Community concerns were limited and primarily focused on ensuring the safety and effectiveness of administering blood products outside of a hospital setting. HCFR addressed these concerns through extensive training, medical oversight, strict quality assurance measures, and adherence to nationally recognized clinical standards. Public and stakeholder feedback has been overwhelmingly positive, recognizing the program as a significant advancement in emergency medical care.

Financing the project presented challenges due to the specialized equipment, training requirements, and ongoing operational costs associated with maintaining blood products in the field. Unlike traditional EMS equipment purchases, the program requires continual investment in blood product management, storage technology, replacement inventory, and quality assurance processes. HCFR successfully leveraged existing resources, partnerships, and strategic planning to overcome these financial barriers while ensuring long-term program sustainability.

While the program has achieved its primary objectives, HCFR continues to pursue opportunities for improvement and expansion. Future goals include increasing the availability of blood products throughout the response system, enhancing data collection and outcome analysis, expanding clinical research participation, and continuously refining protocols based on emerging evidence and patient outcomes. Through ongoing evaluation and collaboration, HCFR remains committed to advancing prehospital care and improving survival rates for patients experiencing life-threatening hemorrhage.

Benefit/Importance of Project

Horry County Fire Rescue (HCFR) implemented its Prehospital Blood Program to address one of the leading causes of preventable death in both traumatic injuries and certain medical emergencies: uncontrolled hemorrhage. Research has consistently demonstrated that early blood transfusion significantly improves survival for patients experiencing hemorrhagic shock. Prior to this program, patients often had to wait until arrival at a trauma center or emergency department to receive blood products, resulting in critical delays during the most time-sensitive phase of treatment.

As one of the largest counties in South Carolina geographically, covering more than 1,200 square miles, HCFR serves a rapidly growing population of more than 427,000 residents, along with millions of annual visitors. Population growth, increasing traffic volume, tourism, and extended transport times in rural areas create unique challenges for emergency medical care. The Prehospital Blood Program was undertaken to bring hospital-level resuscitation directly to the patient, improving survivability regardless of location within the county.

Significance to the Community
The program directly addresses a high-priority public safety issue: preventable death from severe blood loss. Unlike many healthcare initiatives that impact a limited population, the Prehospital Blood Program is available to every resident and visitor who experiences life-threatening hemorrhage from trauma, surgery complications, gastrointestinal bleeding, obstetric emergencies, or other critical medical conditions.

The project benefits all segments of the community, including residents in rural areas, tourists visiting the Grand Strand, pediatric and adult patients, and the county's growing senior population. By initiating blood transfusions before hospital arrival, HCFR provides critically ill patients with a significantly improved chance of survival and recovery while reducing the effects of prolonged shock and organ damage.

Population Impact
The program has the potential to benefit the entire county population of more than 427,000 residents, as well as millions of annual visitors who rely on HCFR for emergency medical services.
Specific benefits include:

- Faster access to life-saving blood transfusions.
- Improved outcomes for trauma and medical patients experiencing severe blood loss.
- Enhanced care in rural areas with longer transport times.
- Increased survivability during mass-casualty incidents and disasters.
- Access to advanced, evidence-based emergency care previously only available in hospital settings.

Degree of Success and Objectives Achieved
The primary objectives of the project were to establish a safe and sustainable prehospital blood transfusion program, train EMS clinicians in blood administration and hemorrhagic shock recognition and provide earlier access to definitive resuscitation for critically injured and ill patients.
HCFR successfully developed policies and procedures, established partnerships with healthcare and blood-supply organizations, equipped response units with blood storage capabilities, and trained personnel to administer blood products in the field. Since implementation, the program has enabled life-saving transfusions to be delivered minutes earlier than previously possible, improving the standard of care available throughout Horry County.

The program has successfully expanded HCFR's clinical capabilities and positioned the agency among a select group of EMS systems nationwide that provide prehospital blood transfusions, demonstrating innovation, leadership, and a commitment to improving patient outcomes. By bringing blood products directly to the patient, HCFR has transformed the treatment of hemorrhagic shock and significantly enhanced emergency medical care for residents and visitors alike.

Project Originality/Innovation

While several EMS agencies across the nation have implemented prehospital blood transfusion programs, only a limited number of ground-based EMS systems in South Carolina currently provide blood products in the field. Recent programs, such as those established by Berkeley County EMS, demonstrate the growing recognition of the life-saving benefits of early blood transfusion. However, prehospital blood administration remains a highly specialized capability that is available in only a small percentage of EMS systems nationwide.

What distinguishes Horry County Fire Rescue's Prehospital Blood Program is the scale, geography, and operational complexity of the service area. HCFR provides EMS coverage across more than 1,200 square miles, serving a population of more than 427,000 residents and millions of annual visitors. The county encompasses densely populated urban areas, rural communities, major tourist destinations, and transportation corridors that frequently experience significant trauma incidents. The program was designed to ensure advanced blood transfusion capabilities are available throughout this diverse environment, reducing the time between injury and definitive resuscitation regardless of where an emergency occurs.

The project also differs in its emphasis on integrating blood administration into a comprehensive countywide emergency medical system. Rather than simply adding a new treatment, HCFR developed a

coordinated program that includes medical oversight, specialized training, blood product logistics, quality assurance, performance monitoring, and strong partnerships with healthcare providers. This systems-based approach ensures blood products can be delivered safely, effectively, and sustainably.

Several innovations were required to accomplish the program's objectives. HCFR developed new protocols for patient identification, blood administration, storage, transport, inventory management, and quality control. Specialized refrigeration and temperature-monitoring technology was implemented to maintain blood product integrity while operating in a mobile prehospital environment. Personnel received advanced education and competency validation to safely administer blood products outside of a hospital setting.

The program also required innovative collaboration among EMS providers, hospitals, blood banks, trauma specialists, and medical directors. Establishing a reliable supply chain and maintaining regulatory compliance required the development of new processes and partnerships that had not previously existed within the local EMS system.

Perhaps the greatest innovation was changing the traditional model of trauma resuscitation. Historically, blood transfusions were available only after arrival at a hospital. HCFR shifted that paradigm by bringing this critical intervention directly to the patient's side, allowing life-saving treatment to begin during the earliest and most critical moments of care. This advancement significantly enhances the county's emergency medical capabilities and positions HCFR as a leader in prehospital clinical innovation within South Carolina.

Concluding Remarks

The Horry County Fire Rescue Prehospital Blood Program represents a transformative advancement in emergency medical care and reflects the county’s commitment to innovation, collaboration, and excellence in public service. By bringing life-saving blood transfusions directly to patients experiencing hemorrhagic shock, HCFR has significantly enhanced its ability to provide critical care during the most time-sensitive medical emergencies.

The program required extensive planning, strong partnerships, specialized training, and a sustained commitment to clinical excellence. Through collaboration with hospitals, blood suppliers, medical directors, and community stakeholders, HCFR successfully developed a safe, sustainable, and evidence-based program that improves patient outcomes and expands access to advanced medical care throughout Horry County.

Beyond the immediate clinical benefits, the program demonstrates the county’s proactive approach to addressing the challenges of a growing population, a large geographic service area, and millions of annual visitors. It ensures that residents and visitors alike have access to the highest level of prehospital care, regardless of where an emergency occurs.

The Prehospital Blood Program exemplifies Horry County’s dedication to improving public safety, advancing healthcare delivery, and investing in innovative solutions that save lives. As the program continues to evolve, HCFR remains committed to evaluating outcomes, enhancing capabilities, and serving as a model for other EMS agencies seeking to improve care for patients experiencing life-threatening hemorrhage. The program stands as a testament to what can be achieved when leadership, vision, and collaboration come together in pursuit of a common goal: providing the best possible care to the community.

‘Life-changing’: Horry County Fire Rescue to transport blood to emergency situations

Horry County Fire Rescue announced the beginning of a new program on Wednesday that will allow them to transport and infuse blood during a trauma crisis.
By Giani Petersen
Published: Oct. 9, 2025 at 7:06 PM EDT

HORRY COUNTY, SC (WMBF) - Horry County Fire Rescue announced the beginning of a new program on Wednesday that will allow them to transport and infuse blood during a trauma crisis.

According to officials from HCFR, they will be transporting “O” positive blood in addition to plasma as well.

Across the United States, roughly 1% of EMS units carry blood in their vehicles, and there are only five others in the state of South Carolina.

Now in Horry County, two safety and medical officers will be carrying coolers with blood to be ready for any medical emergency.

“Yeah, this is absolutely life-changing across our county. We’ve already been able to give this once to an individual within 24 hours of us putting it in service,” said Horry County Fire Rescue Assistant Fire Chief Ben Lawson.

The addition of this program was not done alone, though. HCFR will be receiving blood from the Red Cross going forward, and they have partnered with Conway Medical Center to ensure no blood goes to waste.

“Our involvement is a blood exchange program with them,” said CMC Laboratory Director Angel Croston. “So, when they first approached us, they wanted to see if we would be interested in doing this with them, and if we

could set up a blood exchange program with them, so they didn't have blood expiring on their shelves, and we said we'd be happy to do that with them."

Croston said they have programmed their computers to tell them when the paramedics' blood is about to expire, and two weeks prior to that date, they will supply them with new blood, so none of it expires.

However, when it comes to training, HCFR Medical Training Capt. Timothy Smith with Horry County Fire Rescue said they have that handled.

"The training went through every single paramedic in our department, went through a training session, it lasted about 4 to 5 hours every training session, and they got proficiency with hands-on and education portion of why we give blood products," said Smith.

Smith added that all paramedics will receive refresher sessions on everything learned when it comes to carrying blood roughly every few months to a year.

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HCFR now provides blood for traumatic medical calls

In a partnership with Conway Medical Center and the American Red Cross of South Carolina, Horry County Fire Rescue medical crews can now provide blood on traumatic medical calls while providing pre-hospital care.

HCFR's safety and medical officers will be carrying new blood coolers in their vehicles—stored at fire rescue stations across Horry County—to be used for potentially life-saving incidents, including crashes and other medical emergencies.

"This is a game-changer for Horry County Fire Rescue, but also South Carolina as a whole, to have a county EMS provider—especially one that's our size with such a high daily call volume—with these capabilities," said HCFR Chief Tanner. "Our medical staff has been working on this for a while, and we're happy to see this expansion of services provided."

Every shift, two safety and medical officers will be carrying these coolers and bags of carefully-controlled blood across Horry County, ready for potential traumatic injury calls, where it might mean the difference between life and death.

Capt. Tim Smith in HCFR's Medical Training Division recently completed training with those who will transport and administer the blood, a project he's helped to advance over the course of the last few years.

“We’re always looking for new ways to improve and grow the role of EMS by keeping up with most current research, and with the support of our medical director, leadership here at HCFR and in Horry County Government, we’re now capable of saving lives in a new way,” Capt. Smith said. “It’s exciting to be able to make a difference like this.”

Every year, HCFR runs dozens of calls where providing blood before the patient reaches an area emergency department would be advantageous, potentially saving more lives.

Conway Medical Center in conjunction with the American Red Cross of South Carolina will be helping to source the blood for HCFR and ensure none is wasted. After receiving the blood, HCFR crews will store it in coolers at stations across Horry County, with medical and safety officers transporting it around with them as they traverse HCFR's coverage area. These officers have been trained to make sure the blood stays at a constant, low temperature to ensure it can be administered effectively.

“Location and training has been everything with this rollout,” said Assistant Chief Ben Lawson, who heads HCFR’s EMS operations. “You can never predict where the next critical call will drop in Horry County, so Capt. Smith has been working hard to make sure the right people are properly trained all across our coverage area, to get there and administer blood as quickly as possible.”

The advances continue for HCFR, which has put new medications on ambulances, ventilators, IV pumps and more, with eyes on several other new avenues for service expansion in the near future.

“The future for EMS providers at HCFR is bright,” Assistant Chief Lawson said. “We couldn’t do it without the trust of the public we serve, and our leaders who support us in being able to respond to the growing needs of the public.”

(Pictured, left to right: Capt. Smith and Assistant Chief Lawson with a delivery of the new blood.)

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July 31, 2026

To Whom It May Concern:

It is my pleasure to offer my strongest support for Horry County Fire Rescue's Prehospital Blood Program and its nomination for the J. Mitchell Graham Memorial Award through the South Carolina Association of Counties.

As Chairman of Horry County Council, I have witnessed firsthand the dedication of our public safety professionals and their commitment to providing the highest level of service to our residents and visitors. The Prehospital Blood Program is an exceptional example of innovation, leadership, and collaboration that has significantly enhanced emergency medical care throughout our community.

Horry County is one of the largest counties in South Carolina geographically and serves a population of more than 427,000 residents, along with millions of annual visitors. Providing timely, advanced medical care across such a large and diverse service area presents unique challenges. The implementation of the Prehospital Blood Program addresses one of the most critical emergencies faced by EMS providers, life-threatening blood loss, by allowing patients to receive blood transfusions before arriving at a hospital.

This program represents a major advancement in patient care and demonstrates Horry County's commitment to investing in innovative solutions that improve public safety and save lives. Through extensive planning, strategic partnerships, specialized training, and strong medical oversight, Horry County Fire Rescue successfully developed a sustainable program that brings hospital-level interventions directly to the patient during the most critical moments of care.

The impact of this initiative extends across our entire community. Residents, visitors, and those living in rural areas with longer transport times all benefit from earlier access to life-saving treatment. The program strengthens our emergency response system,

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improves patient outcomes, and reinforces public confidence in the services provided by Horry County government.

What makes this project particularly noteworthy is not only the clinical capability it provides, but also the collaborative effort required to bring it to fruition. Horry County Fire Rescue worked closely with healthcare partners, medical directors, and blood suppliers to establish a program that reflects the highest standards of safety, accountability, and excellence.

The Prehospital Blood Program exemplifies the values of innovation, stewardship, and service that Horry County strives to uphold. It is a project that will continue to benefit our community for years to come and serves as a model for other EMS systems throughout South Carolina and beyond.

I am proud to support this nomination and commend the men and women of Horry County Fire Rescue for their vision, dedication, and commitment to improving the health and safety of those they serve.

Sincerely,

Johnny Gardner, Chairman
Horry County Council

PUBLIC SAFETY DIVISION

Sharon Renee Hardwick
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Phone: (843) 915-5400
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July 30, 2026

To Whom It May Concern:

I am honored to provide my strongest support for Horry County Fire Rescue's Prehospital Blood Program and its nomination for the J. Mitchell Graham Memorial Award through the South Carolina Association of Counties.

As the Assistant County Administrator for Public Safety, I have the privilege of overseeing critical public safety operations that serve more than 427,000 residents and millions of visitors annually. Throughout my career, I have witnessed many advancements in emergency services, but few have had the potential to impact patient outcomes as significantly as the implementation of the Prehospital Blood Program.

This program was developed to address one of the leading causes of preventable death: severe hemorrhage. By enabling emergency medical personnel to administer blood products at the point of care, Horry County Fire Rescue has fundamentally transformed the way critically injured and ill patients are treated in our community. What was once a hospital-based intervention can now begin within minutes of patient contact, significantly improving the chances of survival for those experiencing life-threatening blood loss.

The successful implementation of this program required extraordinary vision, planning, and coordination. Horry County Fire Rescue worked diligently with healthcare partners, medical directors, blood suppliers, and regional stakeholders to develop the protocols, training programs, logistical systems, and quality assurance measures necessary to safely deliver blood products in the prehospital setting. The result is a sustainable, evidence-based program that reflects the highest standards of clinical excellence and operational readiness.

The significance of this initiative is amplified by the unique characteristics of Horry County. Covering more than 1,200 square miles, our county includes urban centers, rural communities, major transportation corridors, and one of the nation's most popular tourist destinations. Transport times can vary considerably depending on location, traffic, weather, and seasonal population fluctuations. The ability to initiate blood transfusions before hospital arrival ensures that patients throughout the county have access to advanced life-saving care regardless of where an emergency occurs.

From a public safety perspective, this program exemplifies proactive leadership and strategic investment in services that directly improve quality of life for our citizens and visitors. It strengthens the county's emergency response capabilities, enhances resilience during large-scale incidents, and positions Horry

County as a leader in advanced prehospital medicine. Equally important, it demonstrates our commitment to continually evaluating emerging best practices and implementing innovative solutions that meet the evolving needs of our community.

I am particularly proud of the collaboration and dedication demonstrated by the personnel of Horry County Fire Rescue throughout this endeavor. Their commitment to excellence, willingness to embrace innovation, and focus on improving patient outcomes have resulted in a program that will save lives and serve as a model for other EMS agencies across South Carolina and the nation.

The Prehospital Blood Program is more than a clinical advancement, it reflects Horry County's commitment to providing exceptional public services, fostering innovation, and investing in initiatives that make a measurable difference in the lives of those we serve. I offer my enthusiastic support for this project and believe it is highly deserving of recognition.

Sincerely,

Sharon Renee Hardwick

Sharon Renee Hardwick
Assistant County Administrator
Public Safety Division