

2015 Achievement Awards Virginia Association of Counties

APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 1, 2015.** Please include this application form with electronic entry.

PROGRAM INFORMATION

Locality: Prince William County

Program Title: Sustainable Evidence-Based EMS Education

Program Category: Criminal Justice & Public Safety

CONTACT INFORMATION

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SIGNATURE OF COUNTY ADMINISTRATOR OR CHIEF ADMINISTRATIVE OFFICER

Name: Christopher E Martino

Title: Deputy County Executive

Signature: Christopher E Martino

Brief Summary

The EMS Training Division has trained paramedics to serve the Prince William County community for more than five years. Due to trends in evidence-based medicine over the past ten years, the program needed to transform from a traditional classroom-based model, to a model driven by performance, expertise and produces the high quality medical professional team that community members expect when they encounter 911 emergency medical services.

A three-pronged framework guided the team for this transformation. The three areas of strategic planning included: administrative and educational alignment, streamlined technology and optimized agency partnerships.

The innovative and novel approach the Training Division took to transform the delivery of the 2014 – 2015 Paramedic Program highlights the creativity, teamwork, excellence and responsibility to both the students in the program and the County residents the team believes in.

Overview

The EMS Training Division has trained paramedics to serve the Prince William County community for more than five years. Due to trends in evidence-based medicine over the past ten years, the program needed to transform from a traditional classroom-based model, to a model driven by performance, expertise and produces the high quality medical professional team that community members expect when they encounter 911 emergency medical services.

A three-pronged framework guided the team for this transformation. The three areas of strategic planning included: administrative and educational alignment, streamlined technology and optimized agency partnerships. By deliberately aligning accreditation and administrative requirements with adult-centered learning and educational principles, the Training Division created student learning teams to cooperate and support each other during paramedic education. This models their work environment as well as developed their skills of inquiry, communication and teamwork. Using streamlined technology, the Training Division implemented eBooks and other technology hardware in the classroom to increase student practice with adaptive testing, performance evaluation and access to the most recent trends in evidence-based medicine. Medical simulation scenarios now occur every week to promote learning transfer and sustainable cost reduction model is in place without sacrificing educational quality. Lastly, the EMS Training Division partnered with County Police, Social Services, multiple hospital and healthcare organizations, as well as community experts to create direct links from students to experts in specialty areas of curriculum.

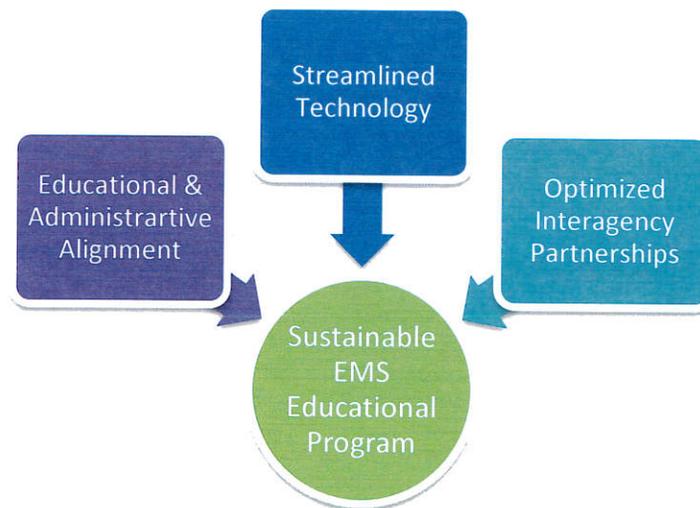
The paramedic program transformation demonstrates a model that is sustainable, cost-saving, and yet does not compromise quality or services to the county residents.

Situation

Nationally, education in emergency medical services has remained relatively consistent, rather than changing to stay up-to-date with evidence-based medicine. Changes in medicine historically take on average, between 12 and 17 years to be fully implemented into practice. There is a risk to the community if educational programs are not specifically designed to be up-to-date with medical evidence. Additionally, the program has existed completely on paper with no electronic tracking, which was very cumbersome for administrators and had very poor data visibility. Students also are experiencing testing challenges because the certification process requires a performance-based exam as well as the use of computer-based adaptive testing. The Fire and Rescue classroom environments are still traditionally lecture-based and on paper. In the past, updates to program infrastructure have come at significant cost to the organization in the past so a novel approach was taken by the team to solve these multiple challenges while controlling investment costs.

Implementation Framework

A three-pronged framework guided the EMS division in planning, as shown below.



Program Details

Strategic Alignment

The team took a deliberate approach to looking at new ways to deliver EMS education and aligned them with best practices in education, public safety and medicine. The main strategic goal was to yield excellent paramedics to serve in the community through superior education built on streamlined technology, student-centered learning, and community resources. Operational goals included:

- making progress towards formalized education program accreditation through CoAEMSP including formalized electronic data tracking.
- optimizing team learning through adult education principles,.
- deploying better individualized learning resources including eTextbooks and technology-based practice tests.
- implementing greater performance-based practice and tracking through clinical sites and the use of high-fidelity medical simulation.
- creating direct links between experts in the community and learners.

Accreditation & Data Tracking

The team implemented the FISDAP data tracking and reporting system to track paramedic students' clinical time and assist with reporting of student-related progress and statistics. With data visibility, the team can report upward to oversight bodies, while also reporting across the organization and County, or to individual learners for the purposes of identifying learning or performance gaps.

Team Learning

First, the students were given assessments to evaluate their learning styles, preferences and motivations. After this, to balance their strengths, the students were placed into learning teams as if they were on EMS units. This maximized collaboration, teamwork and accountability among them to reach both individual and team learning and performance goals. From an administrative perspective, this structure also reflected actual work dynamics of EMS in the community while also developing their soft skills.

Streamlined Technology

Learning Resources for Studying & Testing

The Training Division sought to revamp the learning resources available to the students. Cost of County-purchased student resources for the paramedic program was over \$1,200 per student annually. This equals an annual investment of more than \$14,000, none of which is recouped. The division, in seeking to decrease this cost and create a sustainable model for re-use, explored electronic options and how the options would solve paper-based documentation of clinical rotations.

A technology-based eBook library was rolled out to each learner via an iPad. This created a sustainable model to decrease the overall cost of resources over time. Most importantly, it provided the learners with a larger library of materials, which are constantly updated based on current medical evidence. Through the device, they also have access to online documentation for their clinical rotations, directly linking into the FISDAP database, requiring no paper tracking of their clinical experiences. Additional value to the student include

unlimited access to computer-based practice testing resources, complete with statistical analysis and study recommendations, to prepare learners for the reality of their summative national certification test.

The iPads were purchased and rolled out for the 2014 – 2015 paramedic class, with very little instruction required due to the tech-savvy nature of the students. With cases, there has been no damage to the device, and they can easily be updated and utilized for the new 2015 – 2016 class. After purchase of the iPad device, the implementation yields a cost savings of almost \$5,000 per year. In addition, students report high levels of satisfaction with the iPad, particularly due to the practice testing component as they are about to take their national certification exam.

High-fidelity Medical Simulation

High-fidelity simulation was also implemented on a regular basis for the paramedic students, being used multiple times per week for the students to practice their assessment and treatment skills in real time situations. Having simulation as a backbone of the course allowed the students to experience more of a flipped classroom with a large amount of practical application situations, encouraging and developing the students' higher order, critical thinking.

Optimized Agency Partnerships

Lastly, the Training Division collaborated with community leaders in medicine to provide exceptional instructor assets to the students. The team expanded the use of subject matter experts and the learners were able to directly interact with several emergency physicians, a trauma surgeon, a toxicologist, a pharmacist, an epidemiologist and a forensic investigator. To

increase clinical exposure for the students, the team partnered with three new clinical sites.

Additionally, the County Police and Social Services Departments provided expertise in sensitive areas such as abuse and neglect, crime scene awareness and gang violence, unfortunate realities of society that paramedics encounter. This not only provided great experiences for the students, but fostered teamwork, creativity and promoted social responsibility between multiple intergovernmental agencies.

Conclusion

The innovative and novel approach the Training Division took to transform the delivery of the 2014 – 2015 Paramedic Program highlights the creativity, teamwork, excellence and responsibility to both the students in the program and the County residents the team believes in.

An Innovative, Sustainable Evidence-based Approach to Paramedic Education
Prince William County, VA



Students utilizing their iPads for testing

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Students utilizing simulation in training.

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