



An Essential Lynchpin in the Evolution of Emergency Response

360° Training Documentation, Reporting, and Analysis





Many people today would be surprised at the relatively recent emergence of the emergency response component of our society. While fire emerged as the first formal emergency response discipline, EMS and 911 Emergency Communications have only evolved in the past half century.¹ While the respective disciplines have evolved in practice, training, regulation, and policy—the often-missing lynchpin in the ecosystem is the documentation, reporting, and analysis (for evaluation and improvements).

First, let's review a little history.

There wasn't a need for emergency services in this country prior to the 17th century. Native Americans, a communal people, took care of their own and didn't build a lot of fire-prone structures or fast-moving vehicles. "The first recorded structure fire in the United States occurred in 1608 in the colony of Jamestown. On January 7, a fire leveled most of the fragile colony which was just barely a year old. Captain John Smith wrote of the fire in his journal: 'Most of our apparel, lodging and private provisions were destroyed, I begin to think that it is safer for me to dwell in the [Native American] country than in this stockade, where fools accidentally discharge their muskets and others burn down their homes at night.'"²

It would be roughly another 130 years (1736) until Benjamin Franklin urged readers of his *Pennsylvanian Gazette* to establish fire-fighting companies. And then another 160 years until the National Fire Protection Association (NFPA) was formed in 1896. Yet, educational and regulatory bodies like the Certified Fire Protection Specialist Board (CFPS), an internationally recognized credentialing organization, was established as recently as 1971, and the Fire and Rescue Services Act was only passed in 2004. The Act "gives core regulatory duties of firefighters that includes fire safety provisions, fire extinguishing methods, protecting personal and victim's lives, making provision to stop fire from growing,

expected loss anticipation, rescuing people from harms of road accidents and helping people to manage escape."³

For 911 Emergency Communications, "the first call to 911 was placed in February of 1968."⁴ And perhaps even more surprising, it wasn't until "1966 that President Lyndon B. Johnson received the report *Accidental Death and Disability: The Neglected Disease of Modern Society*, which identified accidental injuries as the 'leading cause of death in the first half of life's span'"⁵ which initiated the formalization of the pre-hospital medical profession. The report revealed the grim reality that if seriously wounded, one's chances of survival at that time would be better in the zone of combat than on the average city street. "Additionally, the report identified a lack of regulation or standards for ambulance operations or provider training."⁵ The report provided several recommendations, which led to the first nationally recognized curriculum for EMS—emergency medical technician—ambulance (EMT-A)—in 1969, followed by the emergency medical technician—paramedic (EMT-P) curriculum in the early 1970s. Yet, advanced cardiac life support (ACLS) didn't exist until 1979 and wasn't universally required for paramedic training and certification until the mid-1980s, meaning care of patients in cardiac arrest varied widely from provider to provider.

So, what does this all mean?

In short, it means as a society, we have only recently established formalized practices and regulation for the emergency response professions that we know as firefighting, EMT, and 911 Telecommunicators. To no surprise, this means that the training documentation, reporting and analysis for these professions has room for improvement within many fire, EMS, and ECC agencies.

How do these professions train?

First responders serve in a hands-on profession.



EMTs use their hands to stop external bleeding, apply neck braces, administer CPR, etc. Paramedics do likewise, and also administer medication, insert IVs, resuscitate patients, provide breathing support using tubes and ventilation devices, etc.



Most firefighters are also trained as EMTs and must learn how to use PPE, handle hazardous materials, drag hoses, raise ladders, execute forcible entries, breach ceilings, extract people from vehicles, search and rescue in blazing structures, etc.



911 Telecommunicators must operate 911 calling and computer aided dispatch technology, understand protocols for emergency medical, fire, and/or law enforcement dispatch, provide instruction for aid such as CPR, choking, childbirth, evacuation, administration of Epi-pens, Narcan, etc.

Yet complementary to all the hands-on (or kinesthetic forms of) training that these professions require, there is also a very important online (or classroom) style of learning that engages the visual, auditory, and reading/writing facets of learning to help reinforce concepts of the kinesthetic learning. EMTs and paramedics, for example, both need state certification to practice; most states accept the NREMT exam which includes a cognitive test and a psychomotor exercise.⁶

All of these first responder roles have professional organizations that have standardized the education and training, certification and recertification, and regulatory environment within which they operate.



How does training documentation, reporting, and analysis fit in?

As each of the professional organizations and regulatory arms of emergency response require documentation of certifications, recertifications, training hours, and enforced guidelines, each public safety entity is responsible for documenting and reporting the required information to the respective authorities. Additionally, each local agency also has its respective policies to disseminate and document acknowledgement across its personnel.

As emergency response becomes more complex—for example, fire departments taking on emergency medical services—and as agencies have grown in size to accommodate urban population growth, the documentation and reporting requirements across all the expanding and diverse needs have dramatically exceeded capabilities of pen-and-paper/spreadsheet systems. Furthermore, because of the number of personnel competencies, licenses, policies, and grave consequences of failure, responsible agencies are not only implementing documentation and reporting systems, but also analyzing the data to address areas of concern and identify areas for improvement.

Percentage of Registered Fire Departments Providing Specialized Services

Specialized service provided	Percentage
Vehicle extrication	77.4
Fire/Injury prevention/Public education	63.7
Wildfire/Wildland Urban Interface	62.9
Basic Life Support	59.7
Emergency Medical Services (EMS) non-transport response	39.7
Technical/Specialized rescue	35.6
Fire investigation/Fire cause determination	35.3
Fire inspection/Code enforcement	34.9
Departmental (in-house) training academy	21.8
Advanced Life Support	21.2
EMS ambulance transport	21.0
Hazardous materials team	17.9
Juvenile fire-setter intervention program	13.7
Airport/Aviation	8.0
Fireboat	4.7

U.S. Fire Administration National Fire Registry Quick Facts
<https://apps.usfa.fema.gov/registry/summary>

What would a 360° training documentation, reporting, and analysis system look like?

It starts with a versatile Learning Management System (LMS) training platform for academy training, onboarding, certification, recertification, policy management, and online, classroom, and in-field training, delivered with 24/7 web-based access, accompanied by an integrated mobile app to document:

- Hands-on skill assessments
- Individual or entire crew evaluations
- Custom form set up and pass/failure logic to accommodate a diverse range of evaluation needs and internal protocols, including rating scales, critical failures, free text comments, video/photo uploads, and more
- DORs and probationary phase completions with automated reporting to FTO Coordinators and/or other leaders upon completion of the program
- Digitized skill assessment forms that integrate with personnel LMS credentials
- Integrated timers for skills with time sensitivities
- Automated reporting to ensure all parties receive timely information and training status updates
- Dual signature fields for evaluator and trainee alignment
- Dashboard and reporting analysis to compare multiple forms and performance to analyze improvements in skill acquisition

Thorough documentation protects agencies from lawsuits when litigation concerns are raised about training programs and personnel competencies. A 360° training software program documents all training in one place, regardless of whether it is online, classroom, hands-on, certification completions, recertifications, policy acknowledgement, etc. When the stakes are high, a training application that shows staff has been properly trained and certified is worth its investment multiple times beyond the cost. And arguably more important, well-documented training records and analysis allow decision-makers to better understand the abilities of probationary personnel and to focus training where it is most needed to help safeguard lives.

As the emergency response professions have become well established and well regarded in this modern era, it's time to bring the documentation, reporting, and analysis affiliated with the professions into the modern era as well. A solid LMS training platform that can handle the complex needs of public safety is the essential lynchpin to a successful training program that meets regulatory and policy requirements, as well as results in a highly trained and performing staff.

About Evaluations+

Vector Evaluations+ is a mobile application that gives public safety agencies a simple way to record, assess, and track live skill demonstrations from the field or drill yard. Departments can eliminate paper skill sheets and provide more transparency into the training process to improve trainee comprehension and skill mastery. Evaluators can record trainee performance in the app and view later to verify scores or during the training for immediate feedback to help trainees better comprehend the techniques and where they need to adjust. Both the evaluator and trainee can verify completions and approvals using the dual electronic signature fields. The completed skill sheet is recorded in the integrated LMS task book in Credentials to ensure trainees receive credit when a skill is passed and signed off.

Departments can work with their CSM to select from a library of pre-built skill sheets or create their own and choose from multiple question type options on the evaluation form, including pass/fail, rating scales with customizable options, free-text paragraph fields, and more. Track performance goals with daily observation reports according to rank for your firefighters and paramedics.

About Vector's Online Training Platform

Vector Solutions Learning Management System (LMS) is not just a public records management system with a training module add-on. It's a complete Fire/EMS training, tracking, and risk reduction solution that is a critical component of a successful agency.

With time-consuming ISO reporting, certification and recertification, training, and licensure details to track for your entire staff, leverage the Vector LMS to replace administrative time with more training time. Build out assignments, select notification types and timelines, get updates on training progress, and even set up the entire year's training without the administrative hassle. Manage your drill-yard assessments and skill evaluations with the Evaluations+ mobile app and ensure every training hour gets tracked and is reportable. Improve compliance, performance evaluations, training status communication, and comprehensive reporting. Save time and simplify your training program with Vector LMS to deliver all your staff's training, activities, community outreach notifications, policy acknowledgements, and more.

Reference

1. This article will not focus on the law enforcement discipline of emergency response since it has a very complex history of its own and for the purpose of this report, we will focus on Fire, EMS, and Emergency Communications.
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3. GRIN, Germany's largest research platform for academic works; article by Musaad Alruwaili, 2013, <https://www.grin.com/document/503727>
4. 911.gov; <https://www.911.gov/50-years-of-911.html>
5. JEMS; <https://www.jems.com/administration-and-leadership/birth-ems-history-paramedic/>
6. How to Become a Paramedic/EMT: Paramedic Schools and EMT Training; <https://www.learnhowtobecome.org/paramedic-emt/>