

Community Analysis: Assessment of Emergency Medical Service Provided by Air Force Fire

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of other is set forth, quotation mark to indicate, and that appropriate credit is given where I have used the language ideas, expressions, or writings of another.

A handwritten signature in black ink, consisting of a large, stylized initial 'A' followed by a cursive name.

Signed: _____

Abstract

This applied research paper recognizes the necessity of a community analysis to assess the emergency medical services provided by Air Force Fire and Emergency Services. Buckley Fire & Emergency Services (BFES) provides response and deployment standards based upon the metro population density and emergency medical service demands of the community.

BFES has been providing Advanced Life Support (ALS) services since 1995. For 20 years, ALS has been the standard of care provided to the Buckley Air Force Base (BAFB) community (personnel working, living, and visiting the installation). Through an existing Mutual Aid Agreement, the City of Aurora has allowed for their contracted ambulance service to respond to and transport patients from BAFB. The problem is Buckley Air Force Base (BAFB) has no ALS service on their first due response, and there are areas within the Air Force Base (AFB) that are not receiving an appropriate response time for ALS incidents. The descriptive method of research was used to answer the following questions: (a) Do the current emergency medical service (EMS) delivery standards of Air Force Fire Protection align with the community standard?; (b) What benefit does the community receive when fire agencies integrate EMS above the emergency medical responder (EMR) on fire apparatus into their organizations?; (c) Are other Department of Defense (DoD) fire departments utilizing EMS above the EMR level in their organizations?

The procedures used to complete the applied research paper included an in depth literature review, data analysis, and phone/email interviews. Research identified a number of components which would require buy in from Air Force leadership at all levels. The recommendation based on the research advocates BFES should provide EMS services above the EMR level consistent with the community standards.

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Introduction

The problem is Buckley Air Force Base (BAFB) has no Advanced Life Support (ALS) service on their first due response. As a result, there are areas within the Air Force Base (AFB) that are not receiving an appropriate response time for ALS incidents. The purpose of this research is to conduct a community analysis to ensure Buckley Fire & Emergency Services (BFES) resources are being used efficiently for emergency medical incidents. Since BFES falls under the statutory requirements of Air Force Fire & Emergency Services (AFFES), BFES is facing a decision on how to provide appropriate emergency medical services (EMS) by the organization.

The descriptive method of research was used to collect and analyze information that is desired for EMS provided by BFES for AFFES within the context of the purpose of the paper. This research will allow the following research questions to be answered: (a) Do the current emergency medical service (EMS) delivery standards of Air Force Fire Protection align with the community standard?; (b) What benefit does the community receive when fire agencies integrate EMS above the emergency medical responder (EMR) on fire apparatus into their organizations?; (c) Are other Department of Defense (DoD) fire departments utilizing EMS above the EMR level in their organizations?

Background and Significance

BAFB is located in the eastern region of the Denver Metropolitan area. BAFB is charged with detecting missile launches anywhere in the world. The Air Force Base is one of the main economic sources that generate nearly \$1 billion annually into the region's economy. Every day BAFB has nearly 14,000 military and civilians working and living on the Air Force installation. BAFB is the sole military installation within a major metropolitan area serving an estimated

130,000 military retirees. As a result, while on the installation, the retiree population account for the second highest number of EMS service call demand in the Air Force.

BFES is assigned to Buckley Air Force Base (AFB), which encompasses an area of six square miles. The BFES is a career fire and emergency services organization which is legally established by DoD. Every DoD component must establish and maintain an installation firefighting, fire prevention and emergency services program. The agency provides a wide variety of emergency response programs including fire suppression, technical rescue, hazardous materials, emergency medical services, and aircraft rescue firefighting. BFES responds to calls for service out of one main fire station. In addition, the communications center serves as Public Safety Answering Point for 9-1-1 calls and is comprised of both fire and security dispatch. BFES is divided into two main sections: Operations and Administration. The Operations Section has the most employees at 35, which is led by two chief officers. The Administrations Section consist of the Fire Chief, Deputy Chief, Assistant Chief of Training, Community Risk Reduction, Health and Safety, along with one fire inspector and five emergency communication center dispatchers.

BFES has been providing ALS care to the military and surrounding community for over 20 years. For most of those years, firefighters were never paid for their performance of EMS duties at the ALS level but provided the service to keep stride with the community standard. It was not about the pay to the firefighters it was the ability to provide the highest level of care to the people that they serve. This goes along the lines of having strong core values which is something public servants in your community should expect. The situation at hand relates back to the fifth goal of the United States Fire Administration (USFA): “establish and sustain as a dynamic organization” (USFA, 2014, p. 10).

BFES provided paramedics on the two front line engines for all incidents and standbys; the transport portion was accomplished through mutual aid agreements at zero cost to the Air Force. For 20 years, BFES has instituted ALS as the standard of care, consistent with the community and provided this service to personnel working, living, and visiting the installation. The most efficient and effective model for rapid delivery of all emergency medical services at the ALS level was for FES to provide the service. BAFB and the surrounding community have accepted BFES as a credible source to provide ALS during EMS situations; the outstanding response times are due to being well positioned strategically and geographically. BFES exceeds the DOD response criteria for the first due apparatus on scene within seven minutes. BFES provides patient care at the ALS level within seven minutes or less at the ninety percentile or greater for EMS responses.

In 2015 and within the Air Force, the change for providing EMS at the ALS level by the BFES has become political, and unfortunately it has had a detrimental impact to BAFB and the surrounding community. The Air Force Surgeon General, who controls Air Force Medical Services, is now in responsible for EMS on all Air Force installations. The Emergency Medical Services Working Group (EMSWG) appointed by the Air Force Surgeon General, has decided AFFES at BAFB is only authorized to perform EMS at the EMR level of care. The FES's primary role in the EMS program is to respond to medical emergencies and provide patient care at the EMR level (AFI, 2014). The Air Force has terminated the ability of BFES to provide ALS engines and has failed to put ALS in place to meet the DoD response standards of twelve minutes for transport, along with two ALS providers. Assessment of EMS provided by the Air Force Fire relates back to the concept of Executive Analysis of Community Risk Reductions

(EACRR) course. “Unfortunately someone usually has to die in order for change to occur” (USFA, 2015, p. 2-19).

Literature Review

The first research question was to assess emergency medical service delivery relating to the community standard. Objective research question number one was: “Do the current emergency medical service delivery standards of Air Force Fire Protection align with the community standard?” The community standard will be defined understanding of the expected service delivery to the public.

The second problem question was: “What benefit does the community receive when fire agencies integrate emergency medical service (EMS) above the emergency medical responder (EMR) on fire apparatus into their organizations?” This question allowed for the review that enabled the agency to answer the question regarding fire agencies that deliver EMS above the EMR level. Collecting content for the question helped define the benefit the community receives for a service level above the EMR, by the fire service, would be defined.

The last question: “Are other Department of Defense fire departments utilizing EMS above the EMR level in their organizations?” was then addressed. By performing a literature review of DOD fire organizations (Air Force, Army, Marine Corp, and Navy) throughout the world, a comprehensive examination of EMS delivery standards can be obtained.

The community standard for service delivery varies throughout the United States depending on available resources, population, and the need for required service (Gruber, 2005). Citizens of a community may ask a question concerning what a community standard is and how does it apply to my community. Standards have existed since the beginning of recorded history,

but the definition today is understood as a level of quality and achievement, that is considered acceptable and desirable (Standards, 2015)

In a metropolitan area, citizens become accustomed to services provided by emergency responders and politicians from the community establish the community standard of emergency response. Public value makes it clear, that all public services need clear objectives and that the public must be involved in the process of deciding what these values should be (Coats & Passmore, 2008, p. 56). On an Air Force installation, the same concept is somewhat true; the base commander carries the authority to decide the required emergency service needed for his/her base. The base commander is essentially the city mayor, ensuring that the base standards align with the community which can be initiated through mutual aid agreements, to include ALS ambulance transport. Non-transport levels of service above the EMR level will be agreed upon at the installation level and specifics will be contained in a local memorandum of understanding (MOU) (Byers, & Ediger, personal communication, June 11, 2013). The community standard for the surrounding community (City of Aurora) and other mutual aid partners is to provide fire based EMS at the paramedic level. The agency head with the duty of providing fire protection is authorized to enter into a reciprocal agreement that includes, the protection of life and property from firefighting and emergency services including basic medical support, basic and advanced life support (U.S.C. ,2006). In further examination, BAFB has contradicted the current Air Force Instructions (AFI) set in place regarding community standards of care.

The mutual aid agreements between BFES and the City of Aurora include reciprocating resources be of equivalency. “BFES will provide one engine company staffed with four fire fighters and advanced life support (ALS) capabilities for back fill to either stations 5, 8, 9 or 15 if needed by the Aurora Fire Department” (Mutual Aid Agreement, 2013, p. 2). Community

leaders have to effectively manage service delivery of fire department resources and how changes to services rendered will affect the community outcome. Mutual aid should not be a regularly scheduled band aid that your community counts on without being able to at least provide a decent first-alarm response (Goldfeder, 2015).

Within a community, a comprehensive community risk assessment needs to be performed to determine if EMS at the EMR level is sufficient for the community or if a higher level of EMS is required. Community risk reduction identifies and prioritizes risks, selects and implements strategies, and evaluating activities and involves community partners all in an effort to better protect the residents (NFPA, 2015). Traditionally the focus of risk assessment was the identification of fire hazards; today, a hazard of risk assessment goes well beyond the fire problem to include medical and or other emergencies. The concept of putting paramedics on a fire apparatus has been adopted by multiple agencies and not something new, but it must be determined if it benefits the community being served. Fire departments throughout the United States are called for assistance related to EMS emergencies every second of everyday. The history of the fire department involvement regarding EMS started in the 1920s. In 1921, Claude Beck, M.D., called the fire department, so he could apply a “pulmotor,” an artificial breathing apparatus, to attempt resuscitation in a patient who died unexpectedly during surgery (Beck, 1941).

Throughout the years, the fire services has adapted and continued to meet the ongoing needs of the community as EMS evolved fire agencies across the United States were integrally involved. Fire stations today are staffed 24 hours a day, which allows for rapid delivery of EMS outside of the hospital setting. Fire based EMS, above the EMR allows the public to receive a multifunctional all hazards responder (firefighter) prepared for a multitude of situations

including patient care at the ALS level. However, decision-makers lack a sound basis for quantifying the overall impact of enhanced emergency medical resources and the number of EMS-trained personnel on the timely provisions of life saving procedures (International Association of Fire Fighters [IAFF], 2010).

As the examination of fire based EMS above the EMR level could benefit placing ALS providers on fire apparatuses, the determinations of fire based EMS requirements for the community can only be determined by the authority having jurisdiction at the local level. An Air Force Base has the same jurisdiction. In non-deployable settings, and the standard of care, at the very least, should be comparable to local civilian community standard or exceed the local community standard (DoD, 2010). The fire service possesses all the resources to confront the changes EMS is facing now and in the foreseeable future. Due to the requirements of fire departments, manpower and infrastructure is already in place to get emergency personnel on scene of a medical emergency within a few minutes of call receipt (Gunderson, 2015).

At most the public and the officials appointed by the public may view patient transport as issues when it comes to fire-based EMS and most research has indicated that rapid on-scene medical intervention by fire based EMS organizations produce results which are the best outcome for the patient. Personnel to deployed to ALS emergency responses shall include a minimum of two members trained at the emergency medical technician-paramedic level (NFPA, 2010). The current indications are that the community standard for EMS provided by a fire agency, on and surrounding BAFB should be at the ALS level.

The examination of similar fire service components, at a comparable level, revealed the Air Force is providing an EMS service at a lower level than their services counter-parts. DoD Fire & Emergency Service components respond to all emergency types, as do their surrounding

community fire department counter parts. The Department of Defense Instruction is very brief and general in terms, allowing for the Armed Forces branches to make a determining factor on levels of service provided to their installations. DoD components shall plan for situations requiring EMS requirements of local jurisdictions, and local risk conditions (DoD, 2006).

Statistics indicate that fires are not as prevalent in the United States as they used to be. However, for most fire agencies, over half of their emergencies are EMS related. Department of Homeland Security provides fire safety and emergency response through the utilization of the United States Coast Guard. All full-time Coast Guard civilian, front line fire fighters providing emergency medical services meet State or National Registry requirements and are certified to at least the Emergency Medical Technician (EMT) Basic Level (USCG, 2012).

The other comparable DoD service components to the Air Force Fire and Emergency Services are from the Army, Navy, and the Marine Corps. EMS at these Fire & Emergency Services organizations could be held also at the EMR level, however within their regulations; they delegate decision making for EMS level of service at the regional or local level. Navy Fire & Emergency Services EMS functions may be provided in four different ways: staffed ambulance with BLS or ALS personnel, cross-staffed ambulances, first response capability from F&ES units, or EMS transport services may be provided by non-DoD EMS (contract or local community) services (United States Navy, 2013). Army Fire & Emergency Services leave the responsibility to the installation/garrisons (commander) to establish EMS response programs (Army, 2006). Emergency medical “First Responder” services must be staffed with trained, qualified and certified personnel per DoDI 6055.6, NFPA and local/host nation/DOT/State/Federal requirements (United States Army, 2006).

To summarize, the findings of the literature review identified the need for EMS above the EMR level. The content of the literature explained that the assessment of the community standard needs to comply with local jurisdictional need. However, within the Air Force, this standard is not widely accepted and in place, a standardized formula for determining EMS capabilities for Air Force installations is applied. Both the community and the EMS responder need to be provided a better opportunity to deliver a comparable EMS service to meet the community needs for the local jurisdiction. This would enhance fire-based EMS delivery, employ lifesaving capabilities to daily EMS response components and facilitate true mutual aid agreements with surrounding agencies. The literature associated to EMS above the EMR level of determination, provided available resources to justify local Air Force installation commanders decisions relating to an effective EMS level of service. The review also gave proof that BFES meets or exceeds the minimum response requirements of the DoD standard of 7 minutes or less, ninety percent of the time to all EMS related emergencies. The alignment of EMS pre-hospital emergency functions to Air Force Fire and Emergency Services, overall response capability melds into a cohesive and seamless fire-based EMS system and benefits the installation and surrounding community.

Procedures

The procedures utilized for this applied research project; identification and analysis of existing community standards. The determining factor for EMS levels of service for the community should best be left to the Installation Commander who is the ultimate decision maker. The desired result intended to do a three hundred and sixty degree community assessment of whether BAFB and the surrounding community would benefit from a higher level of EMS service beyond the EMR scope of practice.

An extensive literature review was conducted to determine the answer to the following questions.

1. Do the current emergency medical service (EMS) delivery standards of Air Force Fire & Emergency Services align with the community standard?
2. What benefit does the community receive when fire agencies integrate EMS above the emergency medical responder (EMR) on fire apparatus into their organizations?
3. Are other Department of Defense (DoD) fire departments utilizing EMS above the EMR level in their organizations?

The applied research project started after the National Fire Academy's Executive Analysis of Community Risk Reduction course on April 13-24, 2015. An in depth literature assessment pertaining to the research questions was completed. Magazines, textbooks, government agency policies, and internet articles were utilized to determine relevant material in answering the research questions.

Once the literature review portion was concluded, an in depth analysis was completed to better determine if in fact a level of EMS above EMR should be considered, based on incident data. The incident data was examined to give an unbiased approach regarding the level of EMS requirement for BFES, since data is fact based. The National Fire Incident Reporting System (NFIRS) relating to BFES, along with local department fractal data and EMS reports was utilized to accomplish this task (see Appendix A). An examination of NFIRS data for all DoD FES departments was also studied to complete a full spectrum data analysis regarding DOD incident response concerning EMS (see Appendix B).

During the months of June and July, personal interviews were conducted with DoD FES components in an effort understand how EMS levels of care are determined at the local level.

The Air Force Fire Chief AFFES is the functional head of agency. Command Fire Chiefs answer to the Air Force Fire Chief and work hand in hand with installation Fire Chiefs. The Command Fire Chiefs' input and opinions are significant due to their working relationships with all Fire Chiefs within their area of responsibility. While it is important to interview those that work for AFFES, other DoD component including Army, Navy and Marine Corps representatives were interviewed to determine how EMS levels of service are established within their organizations. The purpose was to provide responses specifically to the community analysis regarding EMS at Air Force installations, and if it meets the standard expected by the community.

The literature review of DoD instructions, along with the personal interviews revealed several DoD FES components with similar operations and demographics as BFES, offered critical insight and lessons learned or best practices they have implemented. Statistical data revealed that fires are down in other DoD agencies and a rise in EMS incident related responses counted for the majority of day incident activities. The personal interviews allowed for optional deployment models used by other DoD organizations which saved the agency unnecessary costs associated to EMS.

The research had limitations that should be considered with respect to this project. The most significant included the interview process of individuals as the information expressed was based on the DoD instruction and specific agency instruction or policies, personal interviews in contrast, provide self-development concepts and recommendations. Further limitations included were; not exploring or valuing the cost associated with AFFES providing an ALS level of care at all Air Force installations. Additionally, the cost to fund or maintain a program beyond the EMR certification was not addressed. This information may have an impact regarding hidden costs associated in funding Firefighter/Paramedics positions across the Air Force enterprise.

Results

The results of the research project were collected from the literature review and the procedures identified in previous sections. To answer the research questions, an integration of national standards, internet articles, magazine articles, federal policies, DoD directives, and professional organization programs were utilized. An internal review of EMS incident data was also collected and critiqued. Interviews with other DoD FES agency subject matter experts were conducted to provide insight regarding the topic of EMS.

Research Question 1: Do the current emergency medical service (EMS) delivery standards of Air Force Fire Protection align with the community standard?

After analyzing the DoD directives, Air Force Instructions (AFI) and MOU/MOAs, the conclusion to the question was fairly straight forward. The AFIs and DoD directives extensively provide direct guidance relating to the community standard and the level of EMS care that may be established by the authority having jurisdiction or installation commander. The Air Force identifies procedures to plan for ALS in areas that only having a clinic. The medical treatment facility commander must delineate in writing the plan for ALS capability and who is responsible for that service to ensure that the service meets DoD standards. The AFFES AFIs content pertaining to fire based EMS, identified the minimum qualification requirements for patient care, at the EMR level.

The National Fire Protection Association (NFPA), Standard for the Organization and Deployment of fire suppression and emergency medical operations and special operations to the public by career fire departments was used as a baseline for the community standard pertaining to EMS. AFI 32-2001 provides oversight for first arriving fire personnel and acknowledges that

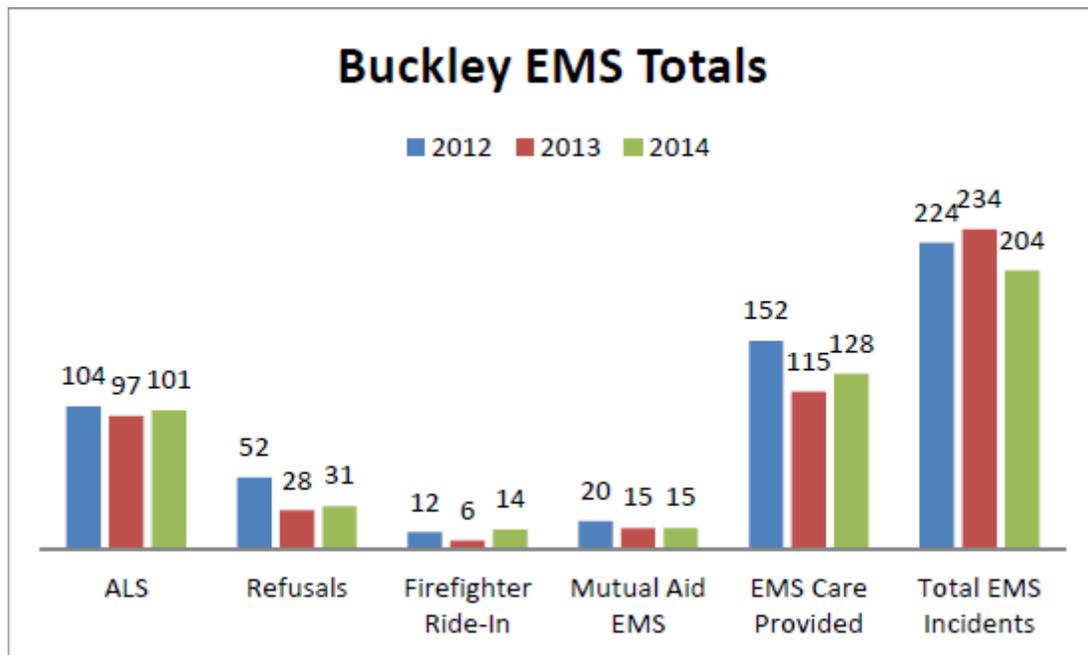
a state or national EMT certification can be maintained by the fire personnel. The Air Force however, only allows fire personnel to operate at the EMR level of care. The AFI contradicts the DoD directive and Title 42-The Public Health and Welfare United States Code for community expected standards. This is an obvious indication that current EMS delivery standards AFFES do not align with community standard.

Research Question 2: What benefit does the community receive when fire agencies integrate EMS above the emergency medical responder (EMR) on fire apparatus into their organizations?

To effectively answer the question, the organization could have surveyed groups of the community, but felt the results would be limited to personal opinions and that the public may not fully understand the different levels of EMS. The literature review revealed the effectiveness of fire based EMS and the benefits the public receives with a rapid response from fire agencies strategically positioned within the community. With literature it is the opinion of others to support the stance that is needed to ensure an unbiased approach is taken; with this being said EMS statistical data was reviewed.

The BFES, a component of DoD Fire & Emergency Services, sought out the review of statistical data as it pertains to EMS. The process of gathering data as it relates to EMS was completed through an internal review of BFES statistical data and external data captured by the National Fire Incident Reporting System (NFIRS). The overall incident data was studied from 2012 to 2014. In 2012, EMS accounted for 33.04% of all incidents, with an increase to 35.92% in 2013 and a spike in EMS incidents accounting for 45.63% of the total incidents in 2014. BFES did see an increase in EMS incidents of 12.59% from 2012 to 2014 (see Appendix A). In a snapshot, BFES would appear to have low incident numbers per year, due to our community

involvement and stellar community risk reduction, but it does have a major impact when called for its service. Reviewing the EMS data from 2012-2014, the average number of EMS incidents over three years accounted for 221 EMS incidents, and the average number of ALS incidents accounted for 101 per year (see Appendix A).



The internal statistical data and results are listed in Appendix A.

The BFES data results indicated that nearly 50% of all EMS incidents accounted for ALS care rendered, due to expedient invasive procedures in the field resulting in better outcomes for the patient. Fire organizations are held to response time standards, also referred to aggregate response times (ART). From 2012 to 2014 BFES responses to EMS incidents at the ALS level met the ART of 7 minutes or less 90-100 % of the time. On the other hand, the private ambulance company providing service to BAFB is required to meet a 12 minute response time standard for ALS care. This time requirement, from 2012-2014 on average was met only 60% of the time with an average response time of 14 minutes (see Appendix D).

Medical, trauma and cardiac accounted for the majority of EMS incidents in 2013 and 2014. Medical Emergencies accounted for 50 to 55% of all EMS incidents, with a spike in trauma in 2013 of 23% and a fall in 2014 to only 8%. Cardiac incidents were fairly consistent over the two year range with an average 10-15% of all EMS emergencies (see Appendix C). Analyzing data allows people at all levels in the organization to interact, manage business issues, improve performance, discover hidden opportunities and operate efficiently (Howson, 2015).

The examination within the NFIRS system gave a better perspective to incident data in regards to all DoD FES need to provide a full spectrum approach. In 2013 DoD FES provided emergency response from 481 fire departments throughout the world, responding to 279,455 incidents (Appendix B). EMS accounted for 78,478 incidents or 28.08%, which accounts for nearly one third of all emergency incident responses (Appendix B). With regional consolidation and joint basing, DoD FES provided emergency response from 470 fire departments throughout the world in 2014. When examining the data from NFIRS a total of 267,898 emergency incidents were initiated, 76,322 or 28.49% where EMS related incidents (Appendix B). This proves again, that one third of emergency incidents with in DoD FES are EMS in nature. This solidifies that BFES, as an AFFES agency, is consistent with other DoD FES components regarding EMS response. “At a bare minimum, the Navy FES always tries to mirror the community standard and as a result 30% of all Navy installations are at the ALS level. The remaining 70% are EMT-B with transport or mutual aid transport at the ALS level” (L. Moore, personal communication, June, 25, 2015).

Research Question 3: Are other Department of Defense (DoD) Fire Departments utilizing EMS above the EMR level in their organizations?

A phone and email communication was utilized to conduct interviews of subject matter experts from the Navy FES, Air Force FES, Marine Corps FES and Army FES. All of the subject matter experts are currently working for the DoD fire components that they represent, allowing them to be in tune with today's DoD fire service standards. To ensure consistency, the experts working for their respective DoD fire components were asked the same group of questions. As an agreement with the subject matter experts, their names would not be used due to the fact that there could be reprisal as a result of their answers. Personal communications were annotated as representing the component for which the expert works for. The subject matter experts provided answers to my questions and any quoted material was read back to the expert to ensure he/she understood what was being quoted along with all their final answers. The phone interview and email communication was intended to provide data to whether other DoD fire components throughout the Continental United States (CONUS), provide EMS above the EMR level, as the minimum level of service provided by their agency. In total there were seven subject matter experts that provided feedback regarding the level of EMS service for DoD fire as a whole. Only five experts were contacted, but with email, other experts decided to share the questions with other subject matter experts in the field, providing a 120% response rate. The first question of the interview was intended to find out the minimum level of EMS service for the DoD fire component represented by the subject matter expert. All subject matter experts from the Army and the Navy acknowledged the minimum level of service was BLS at the EMT level. For the Marine Corp, it was ALS or Paramedic and the only exception was the Air Force which was EMR. In the second question, the subject matter experts were asked; if he/she felt that a standardized minimum EMS requirement for all DoD service components to align all Standard Core Personnel Documents (SCPD) also known as job descriptions was needed. Subject matter

experts were in favor of a standardized minimum EMS requirement across the board to ensure continuity for all DoD FES and 100% agreed that the minimum EMS standard should be at the BLS EMT level. The Marine Corp, Navy, and Army suggested that not all levels of EMS are a one size fits all and allowing installations on case by case bases to be upgraded to ALS paramedic level, if required. Lastly, the subject matter experts were asked; if their DoD component and the EMS provided at the installation level align with the community standard of EMS being provided. Of the subject matter experts, 70% felt that the DoD fire component that they were representing does align with the community standard pertaining to EMS. The other 30% agreed that fire crews are strategically positioned and more reliable than ambulance crews, but the community standards are being met by a contract ambulance company that aligns with the community standard.

In the last portion of the phone and email communications, the subject matter experts were given an opportunity to provide feedback regarding his/her opinion regarding fire based EMS relating to the community standard, the benefit of EMS above the EMR level, and minimum EMS certification level for DoD fire as a whole. All subject matter experts were willing to give feedback regarding their opinion regarding EMS as it pertains to DoD FES. The results are listed in Appendix F.

Discussion

In studying the literature, the analysis of the BFES internal and NFIRS data (see Appendix A), the phone interview conversations and questions (see Appendix F) for this applied research paper (ARP), and the community standard regarding EMS gave reason to support fire based EMS above the EMR level for all AFFES. The standard of care, at the very least, should be comparable to local civilian community standards, and in many settings, the standard of care

may exceed that of the local civilian community (DoDI, 2010). The data supports a recommendation for BFES to continue EMS at the ALS level and further supports, that the minimum level of EMS service within the AFFES be at the EMT level to mirror the component DoD Fire and Emergency services minimum qualification. By BFES providing EMS at the ALS level beyond the minimum AFFES EMR qualification, the EMS standard is fulfilled and in some cases exceeded. Currently, the AFFES stance obligates BFES EMS program to fail in meeting the community standard, mutual aid agreements and expectations of care required by people working, living and visiting BAFB.

Portions of the literature, data, and interviews justified that EMS, throughout the United States is dependent on locality of a city or rural setting dictating the community standard allowing them to vary given the EMS system that surrounds them. The fire departments within a metropolitan area can provide pristine emergency response having the best opportunity to provide the highest level of EMS care. In terms of delivery standard, fire service organizations are held to an aggregate response time for all emergency incidents. The most notable difference in service delivery though, is the fact that hospitals typically provide singular, centrally located ambulance service; whereas, fire based EMS is distributed throughout the community. Getting the right resources to patient in a timely fashion is essential to the success of every EMS system (Zygowicz, 2015).

BFES response and deployment standards are based on the metropolitan population density and EMS demands of the community. The department operates a fire based EMS program that provides the community a designated level of out-of-hospital emergency care. The fire station provides complete coverage to meet all incident ART's for the fire district demand zones. As a community, each person deserves the opportunity to the same level of EMS service

at the highest level possible, regardless if it is fire based EMS or ambulance based EMS.

Through statistical data, BFES has proven that the highest level of EMS at the ALS level is provided through fire based EMS due to response times to patients in less than 7 minutes 90-100% of the time.

The phone and email interviews with the subject matter experts pertaining to DoD FES, indicated the minimum level of EMS provided by all DoD fire components across the board should be EMT. During the phone and email interviews, the subject matter experts concluded that the DoD fire service must keep pace with our neighboring municipal fire departments providing the same community standard at all levels to include EMS. Pacific Air Force Command Fire Chief (PACAF), “statistically more than 60% of responses that the FD responds to are medical emergencies, and I personally believe, that of all of the areas to assume increased risks, our medical response posture was not the right call” (T. Rickard personal communication, June 25, 2015).

To date, under the direction of the Secretary of Defense, the Air Force had no conscientious decision regarding the reduction of EMS delivery by AFFES. The AFFES had no rhyme or reason to accept change to the EMS minimum requirements in comparison to the rest of the other DoD Fire & Emergency Service components. BFES Chief Tim Bosch and former Air Force Command Chief, acknowledges AFI 32-2001, “the Air Force Fire Emergency Services Program current roll of fire is to provide care at the EMR level, however; memorandums of understanding (MOU) can be created with Air Force Medical Service allowing for approval of AFFES agencies to perform at higher levels of EMS, to the ALS level. To date, they have not approved any installation above EMR, except for joint bases” (T. Bosch personal communication, July 27, 2015).

The Marine Corps FES had similar problems that the Air Force is currently experiencing, but adopted change much earlier. In the late 1990s and early 2000s, the Marine Corp as a functional component under the Secretary of Defense, realized best delivery for EMS was fire based. The Director of Marine Corps FES stated, “our agency went through the community standard and enterprise wide to conclude that all Continental United States installations would provide EMS at the ALS level” (K. King personal communication June 25, 2015). As an agency, it was conceptual for them to agree that EMS is complex, and there is no widely-accepted standardized formula to determine capabilities that can be applied, but they did give their communities the best possible EMS care at the ALS level. The literature review, examination of the data, and the phone/email interviews proves that the only way to make change within the organization, while ensuring the community standards are met, is to accept that EMS is not a one size fits all for every Air Force installation. Leadership must embrace that the minimum level of service acceptance throughout other DoD fire components is EMT not EMR.

Recommendations

The problem is Buckley Air Force Base (BAFB) has zero Advanced Life Support (ALS) service for first due response, and there are areas within the Air Force Base (AFB) that are not receiving an appropriate response time for ALS incidents. As previously specified, the community standard pertaining to EMS levels of services is not being met at BAFB. Without Air Force leadership having a concrete plan to provide the community with EMS at the ALS level by either BFES or a private ambulance the community is left with a reduced level of EMS services. When a system has announced its capability to provide advanced life support, it might

be found that the public has the right to rely on that care and to expect the availability of such care 24 hours a day, 365 days a year (Brennan & Krohmer, 2015).

The purpose of the applied research project (ARP) was to conduct a community analysis to ensure BFES resources are being used efficiently for emergency medical incidents. The intent was to find out if the current EMS delivery standards of AFFES align with the community standard. The literature review, phone/email interviews and statistical data all indicate that the community benefits from fire based EMS above the EMR level. Based on the analysis of the proficient research, the community standard has been identified for ALS as the appropriate level of service provided to BAFB.

The following recommendation presented for consideration to Air Force Fire & Emergency Services:

1. BAFB should embrace the EMS community standard and immediately reinstate BFES ALS levels of service.
2. Continue funding BFES paramedic firefighters for a total increase of less than \$25,000 per year.
3. Continue to exercise the agreement with the City of Aurora which enables Buckley AFB, CO (Buckley Fire & Emergency Services) to utilize free ambulance transport service.
4. Recommend AFFES utilize BFES EMS program as the model program for all Air Force installations.
5. Recommend that in non-deployable settings, the standard of care, at the very least, should be comparable to local civilian community standards, on all Air Force installations.

- 6 . Recommend BAFB enter into a contract with a private ambulance company to provide a dedicated on-site paramedic ambulance if fire based EMS is not approved.
7. Recommend AFFES adopt the EMS model set forth by the Army, Navy, Marine Corp. that the minimum level of service is provided at the EMT level.
8. Recommend a community survey and involvement for final decision regarding the minimum EMS community standard on BAFB.

In 2013, BFES accepted a self-assessment evaluation of the organization to examine the past, current, and future service levels. This internal performance was utilized to compare BFES against the current industry practices in the fire service. The evaluation during the BFES accreditation process conducted by Commission on Fire Accreditation International (CFAI), recommend that the agency conduct a workload study to determine the need for additional paramedics. The realization that needs to be captured is that EMS at the EMR level is no longer acceptable if the community standards expect EMS at the ALS level. The AFFES has to accept that the majority of all incidents that fire units respond to are EMS incidents. It would be all so easy if you had a map to the maze, if the same old routine worked, but things keep changing (Johnson, 1998).

Future readers can utilize the research, but should understand the recommendations mentioned within this applied research project are distinctive to BFES. Readers desiring to embark on implementing emergency medical services should perform a preliminary assessment to better identify specific solutions benefiting their specific fire department needs.

References

- Beck, C. S. (1941). Resuscitation for cardiac standstill and ventricular fibrillation occurring during operations. *The American Journal of Surgery*, 54 (1), 273-279.
- Brennan, J. A., & J. Krohmer. (2015). *Principles of EMS systems*. Sudbury, MA: Jones and Bartlett.
- Coats, D., & Passmore, E. (2008). *Public value: the next step in public service reform* (p. 56). Retrieved from http://www.theworkfoundation.com/assets/docs/pubications/201_pv_public_service_reform_final.pdf
- Department of Defense. (2006). DoD fire and emergency services program. Washington, DC:.
- Department of Defense. (2010). DoD public health emergency management in the department of defense. Washington, DC:.
- Department of Homeland. (2012). (United States Coast Guard COMDTINST M11320.1). Fire safety prevention and emergency response services. (2012). Washington, D.C.: Author.
- Goldfeder, B. (2015, June). Mutual aid or band-aid. *Fire Rescue*, 33(6), 16-19.
- Gruber, Jack. (2005, May 20). Many lives are lost across USA because emergency services fail. *USA TODAY*
- Gunderson, M. (2015). Principles of EMS system design. In D. C. Cone (Ed.), *Emergency medical services: Clinical practice and systems oversight*, [2 volume set], (pp. 3-16). Pondicherry, India: John Wiley and Sons, Ltd.
- Howson, C. (2015). In *Successful business intelligence unlock the value of BI*. New York, NY: McGraw-Hill Education.

- International Association of Fire Fighters. (2010). Report on ems field experiments. Retrieved from http://iaff.org/tech/PDF/EMS%Nist%20Report_LORES.pdf
- Johnson, S. (1998). In *Who moved my cheese?: An amazing way to deal with change in your work and in your life*. New York: Putnam.
- National Fire Protection Association. (2015). In *Guide for training fire service personnel to conduct community risk reduction* (NFPA 1452). Quincy, MA: Author
- National Fire Protection Association. (2010). In *Standards for the organization and Deployment of fire suppression operations and emergency medical operations, and special operations to the public by career fire departments* (NFPA 1710). Quincy, MA: Author
- Standard. (n.d.) In *Merrian-Webster's online dictionary (11th ed.)*. Retrieved from <http://merrian-webster.com/dictionary/standard>
- Title 42-The Public Health and Welfare (2006). U.S.C § 1856 *et seq.* United States Government.
- United States Air Force Instruction. (2014). Fire emergency services program (AFI 32-2001). Tyndall AFB, FL: Author.
- United States Air Force Instruction. (2012). Medical care management (AFI 44-102). Rosslyn, VA: Author.
- United States Army Regulation. (2006). Facilities engineering fire and emergency services (AR 420-90). Washington, D.C.: Author.
- United States Fire Administration. (2014). In *Strategic plan: fiscal years 2014-2018*. Emmitsburg, MA: Author.
- United States Fire Administration. (2015). *Executive analysis of community risk reduction* (3rd).Emmitsburg, MD: Author.

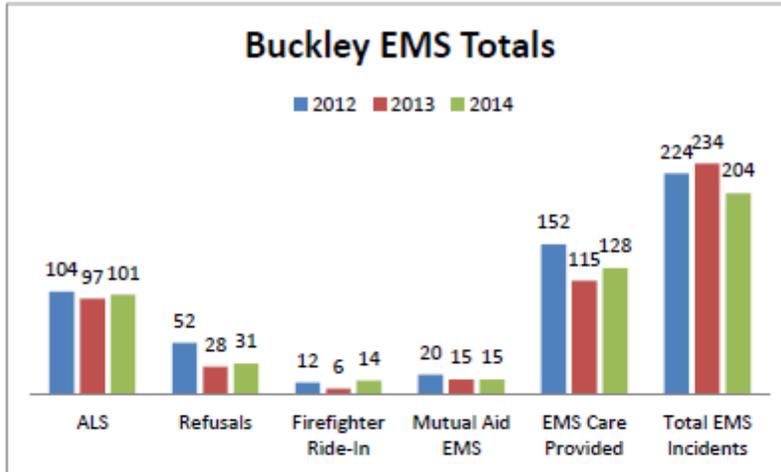
United States Navy (2013). Navy fire and emergency services program (Opnavi 11320.23G).

Washington, DC: Department of the Navy.

Zygowicz, Wayne. M. (2015, May). Adapt to demand. *Journal of Emergency Medical Services*, 40, 36-41.

Appendix A

Local EMS Data & NFIRS



BUCKLEY FIRE & EMERGENCY SERVICES

NFIRS SUMMARY OF EMS INCIDENTS 2012-2014

Summary By Incident Type

Report Period: From 01/01/2012 to 12/31/2012

Percent Of Total Calls

RESCUE CALLS

Emergency Medical Treatment (300-323)	33.04 %
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Summary By Incident Type

Report Period: From 01/01/2013 to 12/31/2013

RESCUE CALLS

Emergency Medical Treatment (300-323)	35.92 %
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Summary By Incident Type

Report Period: From 01/01/2014 to 12/31/2014

Percent Of Total Calls

RESCUE CALLS

Emergency Medical Treatment (300-323)	45.63 %
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Appendix B

Department of Defense NFIRS Data

NFIRS: State Reporting Status
 2014 National Database Summary Ordered by State
 As of: 06/29/2015

State	Reg	FDS	Incidents	Fires		Non-Fire & Non EMS		EMS Only		Invalid Incidents		No Activity Incidents		Unreleased Incidents		NFIRS Version	
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	4.1	5.0
AK	4	173	60,806	2,989	4.92%	17,932	29.49%	39,885	65.59%	0	0.00%	167	0.27%	0	0.00%	0	60,806
AL	2	350	225,237	14,798	6.57%	62,504	27.75%	147,935	65.68%	3,243	1.44%	37	0.02%	26,968	11.97%	0	225,237
AR	2	762	205,243	22,369	10.90%	57,752	28.14%	125,122	60.96%	815	0.40%	935	0.46%	156,353	76.18%	0	205,243
AZ	4	94	459,097	14,712	3.20%	114,235	24.88%	330,150	71.91%	9,170	2.00%	9	0.00%	9,170	2.00%	0	459,097
CA	4	505	2,174,707	77,403	3.56%	606,566	27.89%	1,490,748	68.55%	12,075	0.56%	0	0.00%	2,174,371	99.98%	0	2,174,707
CO	4	229	498,966	11,959	2.40%	157,807	31.63%	329,200	65.98%	3,928	0.79%	88	0.02%	3,995	0.80%	0	498,966
CT	1	224	305,609	11,976	3.92%	107,192	35.07%	186,441	61.01%	1,619	0.53%	0	0.00%	1,619	0.53%	0	305,609
DC	1	1	78,664	1,246	1.58%	11,290	14.35%	66,128	84.06%	239	0.30%	0	0.00%	67,564	85.89%	0	78,664
DD	9	470	267,898	8,096	3.02%	183,490	68.49%	76,322	28.49%	88	0.03%	428	0.16%	267,898	100.00%	0	267,898
DE	1	60	51,146	4,676	9.14%	19,540	38.20%	26,930	52.65%	975	1.91%	0	0.00%	975	1.91%	0	51,146
FL	2	437	2,723,428	54,189	1.99%	620,036	22.77%	2,049,203	75.24%	1	0.00%	202	0.01%	30	0.00%	0	2,723,428
GA	2	341	832,315	40,048	4.81%	280,089	33.65%	512,178	61.54%	3,564	0.43%	42	0.01%	4,698	0.56%	0	832,315
HI	4	4	89,459	2,740	3.06%	28,985	32.40%	57,734	64.54%	45	0.05%	0	0.00%	45	0.05%	0	89,459
IA	3	622	181,189	13,303	7.34%	50,546	27.90%	117,340	64.76%	5,407	2.98%	0	0.00%	5,407	2.98%	0	181,189
ID	4	166	107,412	6,043	5.63%	34,367	32.00%	67,002	62.38%	232	0.22%	180	0.17%	232	0.22%	0	107,412
IL	3	1,083	1,288,921	54,801	4.25%	392,259	30.43%	841,861	65.32%	1,887	0.15%	577	0.04%	2,349	0.18%	0	1,288,921
IN	3	422	73,677	5,508	7.48%	23,318	31.65%	44,851	60.88%	1,648	2.24%	75	0.10%	22,316	30.29%	0	73,255
KS	3	510	258,550	21,506	8.32%	73,456	28.41%	163,588	63.27%	734	0.28%	940	0.36%	257,657	99.65%	0	258,550
KY	2	614	168,432	19,380	11.51%	69,673	41.37%	79,379	47.13%	1,685	1.00%	74	0.04%	1,745	1.04%	0	168,432
LA	2	400	300,435	23,085	7.68%	102,475	34.11%	174,875	58.21%	1,764	0.99%	142	0.05%	300,435	100.00%	0	300,435
MA	1	339	765,415	29,431	3.85%	291,260	38.05%	444,724	58.10%	15	0.00%	0	0.00%	765,415	100.00%	0	765,415
MD	1	273	546,608	19,933	3.65%	170,513	31.19%	356,162	65.16%	8,021	1.47%	1	0.00%	8,508	1.56%	0	546,608
ME	1	166	107,426	5,106	4.75%	32,246	30.02%	70,074	65.23%	151	0.14%	0	0.00%	151	0.14%	0	107,426
MI	3	789	522,177	31,728	6.08%	166,771	31.94%	323,678	61.99%	2,960	0.57%	250	0.05%	3,965	0.76%	0	522,177
MN	3	758	280,670	15,487	5.53%	81,875	31.41%	163,328	62.66%	0	0.00%	0	0.00%	1,009	0.36%	0	280,670
MO	3	477	453,252	29,510	6.51%	138,246	30.50%	286,496	62.99%	3,887	0.86%	53	0.01%	10,720	2.37%	0	453,252
MS	2	637	145,688	20,911	14.35%	35,373	24.28%	89,404	61.37%	4,000	2.75%	395	0.27%	4,012	2.75%	0	145,688

NFIRS: State Reporting Status

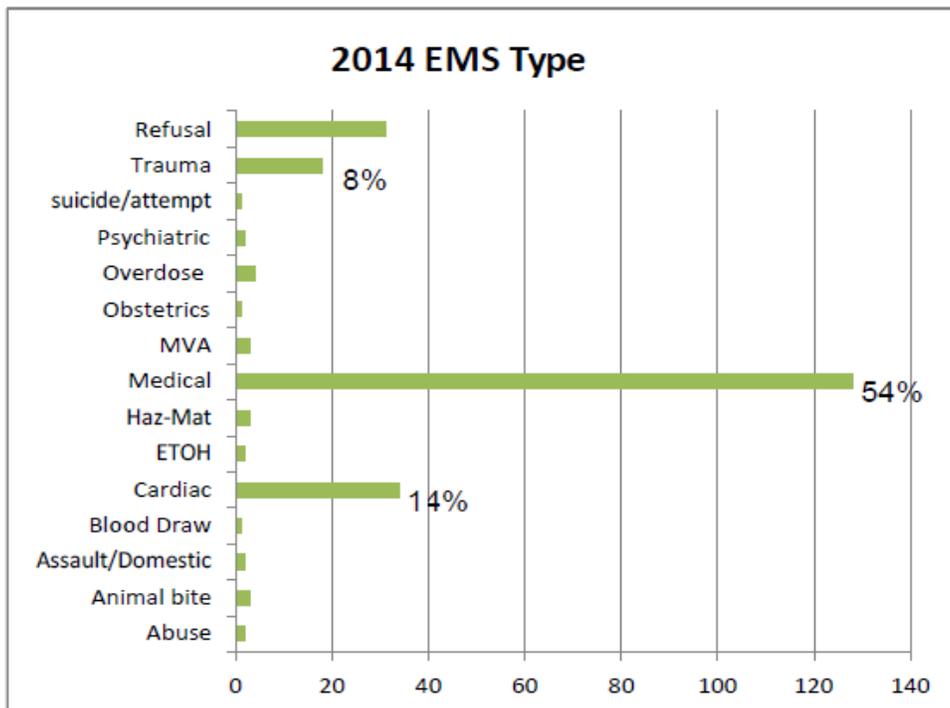
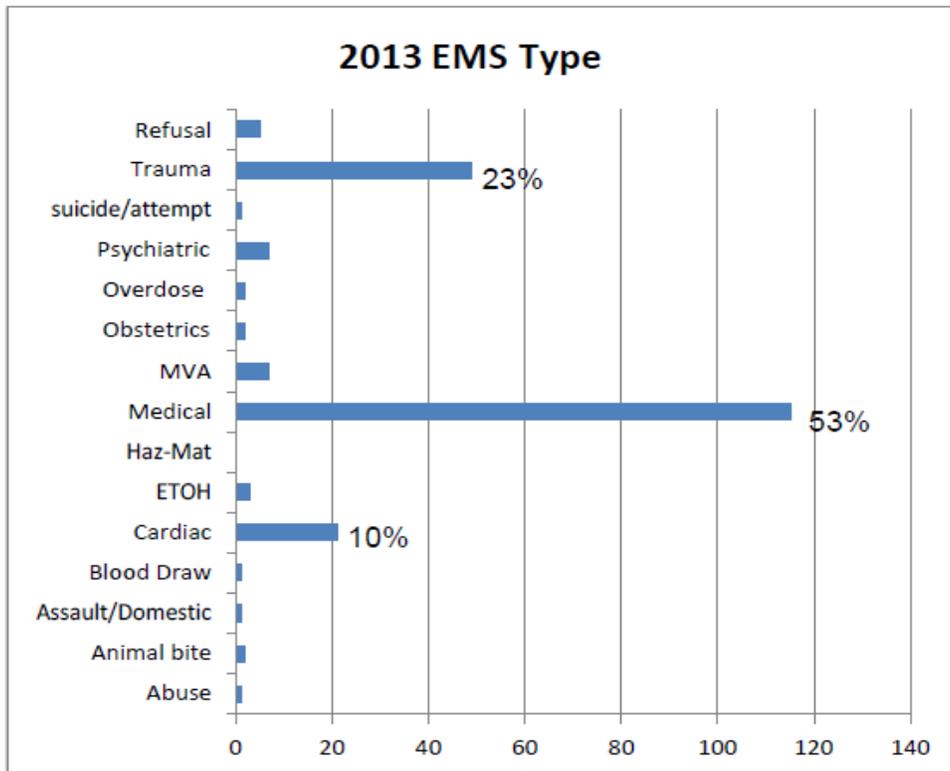
2013 National Database Summary Ordered by State

As of: 04/13/2015

State Reg	FDS	Incidents	Fires		Non-Fire & Non EMS		EMS Only		Invalid Incidents		No Activity Incidents		Unreleased Incidents		NFIRS Version		
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	4.1
AK	167	61,623	3,376	5.48 %	19,027	30.88 %	39,220	63.65 %	2	0.00 %	56	0.09 %	60	0.10 %	0	61,623	
AL	339	202,686	12,299	6.07 %	55,913	27.59 %	134,474	66.35 %	4,419	2.18 %	39	0.02 %	5,641	2.78 %	0	202,686	
AR	739	188,411	18,919	10.04 %	52,740	27.99 %	116,752	61.97 %	452	0.24 %	1,066	0.57 %	6,812	3.62 %	0	188,411	
AZ	92	430,606	15,034	3.49 %	113,126	26.27 %	302,446	70.24 %	3,147	0.73 %	6	0.00 %	9,024	2.10 %	0	430,606	
CA	500	2,138,587	81,770	3.82 %	609,688	28.51 %	1,447,129	67.67 %	13,860	0.65 %	12	0.00 %	13,860	0.65 %	0	2,138,587	
CO	246	501,378	13,066	2.61 %	160,895	32.09 %	327,417	65.30 %	9,531	1.90 %	123	0.02 %	12,495	2.49 %	0	501,378	
CT	229	335,988	13,142	3.91 %	114,346	34.03 %	208,500	62.06 %	10	0.00 %	0	0.00 %	10	0.00 %	0	335,988	
DC	1	64,429	1,269	1.97 %	12,086	18.76 %	51,074	79.27 %	869	1.35 %	0	0.00 %	869	1.35 %	0	64,429	
DD	9	481	279,455	8.083	192,894	69.03 %	78,478	28.08 %	174	0.06 %	467	0.17 %	279,455	100.00 %	0	279,455	
DE	1	60	47,871	4.184	17,283	36.10 %	26,404	55.16 %	759	1.59 %	2	0.00 %	814	1.70 %	0	47,871	
FL	2	446	2,583,936	55.609	588,035	22.76 %	1,990,292	75.09 %	7	0.00 %	273	0.01 %	188	0.01 %	0	2,583,936	
GA	2	354	850,686	37,604	4.42 %	270,623	31.81 %	542,459	63.77 %	4,603	0.54 %	128	0.02 %	8,611	1.01 %	0	850,686
HI	4	4	87,486	3.112	27,642	31.60 %	56,732	64.85 %	165	0.19 %	0	0.00 %	165	0.19 %	0	87,486	
IA	3	635	170,644	11,813	6.92 %	47,086	27.59 %	111,745	65.48 %	4,329	2.54 %	0	0.00 %	6,109	3.58 %	0	170,644
ID	4	175	102,110	6,243	6.11 %	32,885	32.21 %	62,982	61.68 %	404	0.40 %	208	0.20 %	633	0.62 %	0	102,110
IL	3	1,082	1,228,876	52,278	4.25 %	365,553	29.75 %	811,045	66.00 %	2,989	0.24 %	956	0.08 %	3,038	0.25 %	0	1,228,876
IN	3	588	368,628	20,702	5.62 %	104,373	28.31 %	243,553	66.07 %	11,112	3.01 %	14	0.00 %	11,289	3.06 %	0	368,628
KS	3	484	237,763	15,197	6.39 %	67,921	28.57 %	154,645	65.04 %	1,311	0.55 %	547	0.23 %	1,541	0.65 %	0	237,763
KY	2	633	173,320	17,208	9.93 %	69,793	40.27 %	86,319	49.80 %	2,558	1.48 %	90	0.05 %	2,568	1.48 %	0	173,320
LA	2	394	272,666	21,074	7.73 %	92,343	33.87 %	159,249	58.40 %	2,410	0.88 %	109	0.04 %	4,399	1.61 %	0	272,666
MA	1	346	773,819	31,867	4.12 %	298,812	38.62 %	443,140	57.27 %	95	0.01 %	26	0.00 %	97	0.01 %	0	773,819
MD	1	274	542,169	20,802	3.84 %	159,000	29.33 %	362,367	66.84 %	13,423	2.48 %	0	0.00 %	15,247	2.81 %	0	542,169
ME	1	187	97,436	5,004	5.14 %	28,753	29.51 %	63,679	65.35 %	21	0.02 %	2	0.00 %	29	0.03 %	0	97,436
MI	3	809	503,293	32,061	6.37 %	158,421	31.48 %	312,811	62.15 %	3,674	0.73 %	236	0.05 %	4,858	0.97 %	0	503,293
MN	3	756	251,811	16,188	6.43 %	79,227	31.49 %	156,196	62.08 %	0	0.00 %	0	0.00 %	11	0.00 %	0	251,811
MO	3	483	423,407	24,412	5.77 %	128,163	30.27 %	270,832	63.96 %	3,778	0.89 %	61	0.01 %	3,867	0.91 %	0	423,407
MS	2	677	140,163	18,043	12.87 %	33,661	24.02 %	88,459	63.11 %	1,481	1.06 %	711	0.51 %	2,699	1.92 %	0	140,163

Appendix C

Buckley Fire & Emergency Services Local EMS Incident Type



Appendix D

Local Fractal Response Time Data

EMS Response - 90th Percentile Times –		2014	2013	2012	2011	2010
Baseline Performance						
Alarm Handling	Pick-up to Dispatch	0:01:42	0:00:51	0:00:32	0:00:34	0:00:32
Turnout	Turnout Time	0:01:02	0:00:30	0:00:31	0:00:25	0:00:51
Time	1st Unit					
Travel	Travel Time	0:04:06	0:02:44	0:02:30	0:02:20	0:02:45
Time	1st Unit Distribution					
	Travel Time	0:12:46	0:12:40	0:09:35	0:12:30	0:10:33
	ERF					
	Concentration					
Total Response	Total Response Time	0:06:13	0:04:05	0:03:33	0:03:19	0:04:08
Time	1st Unit On Scene Distribution					
	Total Response Time	0:15:30	0:14:01	0:10:38	0:13:29	0:11:56
	ERF					
	Concentration					

Appendix E

Letter to Subject Matter Experts

June 15, 2015

DoD Component Subject Matter Experts,

As many of you are aware, I am currently enrolled in the National Fire Academy Executive Fire Officer Program (EFOP). As I embark as in my second year as an EFOP student, an applied research project is part of the curriculum. I have chosen to interview the subject matter experts within DoD Fire pertaining to my paper titled, Assessment of EMS Provided by Air Force Fire. I ask that you participate expressing your expert opinion on the project that I have chosen to embark, which will help to provide program recommendations or a model to be utilized in in the future by Air Force Fire & Emergency Services. I have provided questions closely related to my research paper needs for all subject matter experts to answer providing their opinion and facts. I would appreciate if the personal communication/emails could be completed by July 15, 2015.

I would like to ensure if you have question or concerns I will be more than willing to assist you in the matter. I thank you for participating and assisting with my applied research project.

Feel free to contact me at (303) 548-8358 or ffmichaelanderson@gmail.com.

Thank you,

Michael A. Anderson

Appendix F

Subject Matter Experts Communications

Questions:

- (1) Do the current emergency medical service delivery standards of your DoD Fire & Emergency Services agency align with the community standards?

Answers:

Army:

Yes our emergency medical standards align with the community standard, the guidance is contained in AR40-3 and essentially the medical director at each installation establishes the appropriate level of pre-hospital EMS. This generally translates to EMT, but there are some locations where we run ALS.

Navy:

At a bare minimum, Navy Fire always try and match the community standard, the only exception is if we can partner with outside agencies to provide ALS. The only hindrance is if population grows and outside partners can no longer support ALS mutual aid.

Marine Corp:

The Marine Corp Fire had an ongoing issue concerning EMS in the late 90's, we went with the community standard initially, and enterprise wide we provide EMS at the ALS level at all CONUS bases.

Air Force:

(SME #1) No, we provide service to our communities inside the fence and don't really compare our delivery standards to what we have off base. Each community differs in there EMS delivery and how it's applied, depending on how many ambulances may be engaged at the same time.

(SME #2) I believe that the current EMS/EMR program fall below community standards in regards to performing and delivering quality medical care. Some hide this by creating a veil and security blanket behind the fact that most bases have medical facilities on the installation or very nearby. Constant turnover by both military firefighters Med Group members create an environment of lack of training, differing training (depending where they came from), and work duties (Med Group) that keep them from learning and mastering their main job of saving lives when the time arises. When firefighters were able to provide medical services above EMR it provided another avenue for the military community to keep trained EMTs that most likely respond more often and can focus more on the medical training aspect because fire departments provide a better training regimen than most other AFSC's in the Air Force. Travel time was shortened as firefighters understand response area better than most ambulance services I have seen that it not integrated with the Fire Emergency Services. Finally, given the cost of maintaining and integrating medical services as an emergency services community should reverse course and retain not only EMT and above in the fire station but should integrate and assume those responsibilities as well.

(SME #3) In terms of delivery standard, specifically aggregate response time, yes we are similar. When it comes to service delivery our most notable difference is Hospital based ambulance service versus Fire based ambulance service. Hospitals are typically providing singular, centrally located ambulance service that depending on the installation size can leave significant coverage gaps. Where fire based ambulances are distributed throughout the community. Additionally, most AF ERs are dual hatting their technicians; attending to patients in the ER and responding on the ambulance. We believe this hampers the Hospital based ambulance's ability to meet standard turnout times. Mix in a high turnover rate of military technicians (PCS, TDY, promotions, etc) and the response time gets worse.

(2) What benefit does the community receive when fire agencies integrate emergency medical services (EMS) above the emergency medical responder (EMR) on fire apparatus into their organizations?

Army: I cannot answer for the communities, what I can say is, EMS in the DoD is a dicey subject. One hand we have dedicated professionals working to provide the best service to the communities they serve bumping up against funding and staffing considerations and constraints. In the middle are people like myself trying to balance resources against requirements to ensure out teams in the field have what they need to perform these critical tasks. It's a very difficult balancing act.

Navy: Overall our communities that we serve receive EMS care at the EMT level as a minimum. In some cases we provide BLS or ALS with or without transport depending on the installation and mutual aid agreements play into this factor. Overall this is decided at the installation level, with Navy Fire approval. This has served our agency and our communities very well.

Marine Corp: The transfer of EMS from the medical to fire was very hard, overall it has served us well as an agency and our communities. EMR is the lowest level of care; the Marine Corp provides the highest level of care at the ALS level which provides a major benefit to the community.

Air Force:

(SME #1) None of the bases were granted any service above EMR. For those bases who provide ambulance support via mutual aid, the ambulance directly bills the customer (insurance) not the Air Force. The benefit would be bolstering the EMS partnership between our bases and the local communities and capitalizing on those joint training ventures. Buckley was a unique situation and most of our bases have a contract in place to provide ALS. There has been quite a few instances where the contract ambulance does not meet the response time in DoDI 6055.06 and when have addressed those issues without resolve to date.

(SME #2) The community receives a better integrated level of care that fosters teamwork that will directly impact the quality and success rate of life threatening responses when they are needed. While stationed at Kadena and Andersen AFB we had a fully integrated EMS program that included also paramedics that were imbedded within the fire department. This allowed them to train with the firefighters at every exercise that made operating as a team second nature when responding to real world events. Medics did not have difficulty locating the

emergency and by firefighters and medics arriving at the same time dramatically increased the speed at which basic lifesaving care was started particularly when it involved CPR or the use of the AED. Additionally, having the medics embedded with us allowed them to focus on medical response versus being pulled back to their unit to accomplish tasks not related with EMS response.

(SME #3) One of the key differences noted by the NREMT between the lay person and a responder trained to the EMR levels was a duty to act...and that's it. (believe that's in the National Scope of Practice Model on NREMT website). The easy answer is early access to advanced levels of care. Again, Hospital based ambulances are typically not distributed strategically throughout our communities. Fire apparatus are already there, typically staffed with some mixture of military/civilian crew. Civilian crew members provide long term continuity which is beneficial to the community in terms of familiarity with the assigned response district which equates to reduced response times and early access to care.

Are other Department of Defense (DoD) fire departments utilizing EMS above the EMR level in their organizations?

Army: I do not have the exact numbers of those installations in the Army providing ALS versus BLS since the decision is done at the local level, but the minimum level provided is EMT across Army Fire.

Navy: As of to date, 30% of installations in CONUS are performing at the ALS level, the rest are EMT. As an agency the minimum level of service provided is EMT, in 2019, would like to have all fire personnel converted to a national registry certification across the enterprise, and follow Navy EMS protocol, use the same patient care reports to streamline the agency.

Marine Corp: As stated before Marine Corp Fire is utilizing ALS as the standard in CONUS installations as the minimum standard.

Air Force:

(SME #1) Yes to my knowledge the AF is only entity, which adopted EMR as a standard. I believe we don't truly know the impact yet, because many of our EMT's are still active, and minor difference between EMR and EMT will not be recognizable in the field. In other words, for the most part, our EMS stance will remain the same as before.

In my own opinion, we (AF FES) made a huge mistake by adopting EMR. We have always exceeded our standards and were an example to emulate by other services. For the first time, actually to a professional certification and downgraded that level of service. This decision was made by a few personnel from AFCEC and not voted on by the fire panel (Command Fire Chiefs). After 2 years, AFCEC leadership has realized its error and would like to reverse the decision, but SG (medical) is not about to reverse the agreement without substantial justification showing EMT is need.

(SME #2) Currently in PACAF we only have one base that is operating above EMR levels and that is due to the geographic separation of size of the base. The real

issue arises at bases such as Cannon AFB when the base only has a clinic and requires lengthy travel distances to the nearest medical facility.

Statistically more than 60% of responses that the FD responds to are medical emergencies and I personally believe that of all of the areas to assume more risk reducing our medical response posture was not the right call.

(SME #3) Yes, as a joint base unit, we use a blend system of BLS engines staffed with EMR/EMTs supporting both a Fire based ALS ambulance service and a traditional Hospital based ALS ambulance.