

**STRATEGIC TRANSITION TO A FIRE-BASED EMS SYSTEM:
MANAGING THE EFFECT ON THE HUMAN SIDE**

STRATEGIC MANAGEMENT OF CHANGE

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ABSTRACT

The problem was that the Arlington Fire Department had not yet developed a strategy for managing the human side of a probable transition to a fire-based EMS system. The purpose of this applied research project was to explore the issues and recommend a strategy for successfully managing the human side of a transition to a fire-based EMS system.

Historical and action research methodologies were employed for this study in order to answer the following questions:

1. What has historically been the effect on personnel concerning changes in the level of emergency medical services (EMS) provided by the fire service?
2. What options are available according to the research to acquire the level of staffing needed to support a fire-based EMS system in the City of Arlington?
3. What insights can management literature or research provide regarding the human side of a major organizational transition?
4. Which of the theories or models described in the literature can be adapted to the Arlington Fire Department in order to provide a framework for managing the human side of the transition to a fire-based EMS system?

The principle procedures employed were the review of written documents such as department policies and standard operating procedures (SOPs), as well as relevant literature and instructional materials focusing on the various transition issues to fire-based EMS. Telephone interviews were also conducted with primary sources who had first-hand knowledge and experience related to the problem.

The results indicated that the fire service in general has been struggling with the transition to fire-based EMS mainly because of the effects on personnel involved in the change.

It was recommended that the Arlington Fire Department should develop a strategic action plan for managing the human side of a transition to a fire-based EMS system.

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INTRODUCTION

The Arlington Fire Department (AFD) currently delivers emergency medical services (EMS) to the City of Arlington through a first responder program. Certification levels of fire department personnel are presently being upgraded from basic life support (BLS) certification to the advanced life support (ALS) level. A private ambulance contractor provides both the emergency transport and non-emergency transfer ALS services. The probability of the fire department taking over the emergency transport ambulance service in the future, due to either a contractual default by the private provider, or by a directive from the city council to bid on the next ambulance contract, is increasingly becoming an issue for discussion within the department. Change management will obviously be necessary, and personnel issues will most likely play a large role in the transition. Therefore, this applied research project focuses on the effects concerning the human side of the transition to a fire-based EMS system.

The problem presented in this applied research project is the Arlington Fire Department has not yet developed a strategy for managing the human side of a probable transition to a fire-based EMS system. The purpose of this applied research project is to explore the issues and recommend a strategy for successfully managing the human side of a transition to a fire-based EMS system.

Historical and action research methodologies are employed for this study in order to answer the following questions:

1. What has historically been the effect on personnel concerning changes in the level of emergency medical services provided by the fire service?
2. What options are available according to the research to acquire the level of staffing needed to support a fire-based EMS system in the City of Arlington?

3. What insights can management literature or research provide regarding the human side of a major organizational transition?
4. Which of the theories or models described in the literature can be adapted to the Arlington Fire Department in order to provide a framework for managing the human side of the transition to a fire-based EMS system?

BACKGROUND AND SIGNIFICANCE

The Arlington Fire Department is a fully paid career department providing fire, rescue, and emergency medical services to the residents of and visitors to the City of Arlington through a carefully and efficiently constructed fire and emergency services system.

This system currently has 16 fire stations housing 24 fire and rescue apparatus consisting of 16 Engines, 5 Aerial Ladder Trucks, 1 Hazardous Materials Response Unit, 1 High Angle Rescue Unit, and 1 Dive Team Support Unit. The Fire Operations Division consists of 269 uniformed members, working a 24-hour on and 48-hour off work schedule. The City's Fire Districts are divided up into three Battalions. The City's current population is 330,000 and is expected to peak at 500,000. The City covers an area of 98 square miles.

In the early 1980's the department implemented a program requiring all fire operations personnel below the level of Battalion Chief to become certified as basic Emergency Medical Technicians (EMT). Although many welcomed this requirement, it caused resentment and fear among others. The transition occurred initially by training those members who volunteered to go first, and then by assigning the remainder of the members to complete the necessary training. Members who could not complete the training were given assignments in other non-emergency response areas of the department. No one lost his or her job because of the transition.

AFD Standard Operating Procedure (SOP) 101.22 “ EMT Certification” was added to the Administrative Procedures section of the SOPs following the implementation of the program. The SOP outlined the requirements for maintaining the EMT certification and the provisions for refresher and recertification training

The department also implemented the first responder program at that time, dispatching a fire unit to all medical calls along with the contracted ambulance provider.

The City of Arlington has historically operated with a contracted ambulance company responsible for providing both the emergency transport and non-emergency transfer services within the city. The ambulances have been staffed historically with two paramedics, providing all necessary ALS services.

In the early 1990s, the department made its first move to update the EMS system by training all members on the operations of the automatic external defibrillator (AED). AEDs were subsequently placed on each Engine and Aerial Ladder Truck in the City. This was met with little or no resistance. The firefighters considered it a valuable piece of equipment for the delivery of EMS, which had become second nature by now for most members. The only fear expressed initially was the fear of shocking someone unintentionally while operating the equipment on a patient.

AFD Standard Operating Procedure 202.11 “Automatic External Defibrillator (AED)” was added to the Emergency Medical Services section of the SOPs following the implementation of the AED program. The SOP outlines the use, event reporting, and care and maintenance requirements for the AED.

In the Fall of 1997, the department made its next move to update the EMS system, adding the Battalion Chiefs to the list of personnel required to be certified to the level of EMT, and

requiring they obtain the certification by the end of January 2000. The Battalion Chiefs did not readily welcome this requirement. However, between the years 1997 through 2000, expected retirements and subsequent promotions caused all but two Battalion Chiefs to meet the EMT requirement. When presented with the directive to attend the last available EMT class to be offered, the two remaining Battalion Chiefs lacking the certification chose to retire rather than complete the certification training. The subsequent promotions from these two retirements fulfilled the goal to have all personnel now below the rank of Assistant Chief certified, as a minimum, at the EMT Basic level.

During the same 1997 through 2000 time period, members holding certification levels above that of EMT were authorized to perform at their certification level under the auspice of the contract ambulance provider. Under this arrangement, ALS skills could only be performed after the ambulance arrived on scene. No ALS equipment would be carried on the fire apparatus. This was a directive from the City's Risk Management and Legal Departments.

AFD SOP 101.22 "EMT Certification" changed at that time to reflect a new heading "EMS Certification." The revised SOP included a statement of purpose, which directed the Arlington EMS system to provide the quickest response possible to requests for medical aid with well-qualified personnel. EMT-Intermediate (EMT-I) and Paramedic certification requirements were added to the SOP along side the existing requirements for maintaining the EMT Basic certification and the provisions for refresher and recertification training.

In 1999, an outside consultant was hired to conduct an extensive analysis of the City's EMS system. The operations of the fire department, communication services, and private ambulance provider were all studied in the analysis. Numerous recommendations were made for improvements in each area.

Focusing solely on the fire department operations, a key recommendation was made through the analysis to upgrade the BLS first responder program to an ALS first responder program. The most cost effective and efficient way to do this was identified as upgrading the certification level of all EMT Basics to the EMT-I level. Also recommended was the fire department rapidly implement an advanced life support response capability by utilizing the skills of the department's existing 29 paramedics and placing ALS equipment on the apparatus.

In response to the recommendations, the City purchased the needed ALS equipment, and for the first time, allowed the paramedics to utilize their skills. In addition, in January 2000, fire operations personnel started attending scheduled EMT-I courses to upgrade their certification levels. The EMT-I training is expected to take two full years to completely upgrade the entire department.

In order to facilitate the program, members receive the certification upgrade training while on duty. Off-duty firefighter paramedics teach the course, receiving overtime pay as incentive. Members are scheduled for the course one year in advance, based on date of current certification expiration. Four courses are taught during the year: one each quarter. Members who are anticipating retirement the year they are scheduled for the course are allowed to "opt out" of the training by signing a legally binding contract developed by the City Attorney's Office, which states the individual will resign by January 31 of the following year. The Opt Out Provision is offered each December when the list of students for the upcoming year is published. The Texas Department of Health (TDH) sanctions the course each year and strictly monitors the classes.

Reaction to the upgrade training has been mixed. Some members expressed concerns that the EMT-I level was not enough, and that the department should upgrade to the paramedic

level. Others expressed concerns that the EMT-I level was too much, and that the department should maintain services at the EMT Basic level.

While a few members have retired because of the certification upgrade requirement, most members have maintained a positive attitude and are looking forward to the training. Those that have completed the training have reported a positive learning experience and greater appreciation for the job being done by the ambulance paramedics.

To date, the fire department is committed to providing first responder ALS to the community by upgrading to the EMT-I level. The department expects to complete the required upgrade training for all members below the rank of Assistant Chief by October 31, 2002.

The latest changes to AFD SOP 101.22 “EMS Certification” includes a section on background of the certification upgrades, a section on the EMT-I upgrade certification requirements, a section on the “Opt Out Provision” and a section on Paramedic Licensure.

Due to the evolving nature of the Arlington Fire Department’s EMS system, the probability of taking over the emergency transport ambulance service in the future is increasingly becoming a reality. Change management will obviously be necessary, and personnel issues will most likely now, more than ever, play a large role in the transition. Therefore, this applied research project focuses on the effects concerning the human side of the transition to a fire-based EMS system.

The purpose of this applied research project is to explore the issues and recommend a strategy for successfully managing the human side of a transition to a fire-based EMS system. The change management problem addressed by this research project is directly related to the Change Management Model, and more specifically related to Module 5: Personal Aspects of

Change Management as presented in the Strategic Management of Change course of the National Fire Academy's Executive Fire Officer Program.

LITERATURE REVIEW

The critical findings of others who have published documents related to the research problem have been summarized to describe how such information influenced this researcher's effort. The areas of influence include (a) historical information concerning the transitioning to fire-based EMS and the issues and effects on personnel, (b) options available to acquire the level of staffing to support a transition to fire-based EMS, and (c) theories or models for providing the framework and strategy for managing the human side of the transition to fire-based EMS.

Telephone interviews were conducted for the critical findings of others considered as primary sources because of their first-hand knowledge and experience related to the problem. The areas of influence for the telephone interviews were the same as those listed above.

Historical Issues and Effects

In many communities, fire service first responders provide medical care prior to the arrival of ambulance personnel (Greiff, 1999). Of the communities that have first responder programs, the majority are fire service based and AED equipped (Greiff, 1999). The City of Arlington Fire Department is very similar to most cities in this perspective of EMS delivery.

While the number of fires has decreased significantly nationwide, the number of EMS responses has soared (Greiff, 1999). Increased public awareness of the need for CPR and rapid intervention, improved access to 9-1-1, and a population that is living longer are all reasons for why EMS has grown into one of the country's busiest emergency services (Greiff, 1999). This increasing trend in EMS responses has created a greater demand for services, and in turn, a greater need for additional responders (Greiff, 1999). According to Greiff (1999), this trend has created

two groups: those that are very much in favor of delivering EMS services, and those that are very much opposed to delivering EMS services.

Politicians are among the group who favor fire-based EMS systems. They see fire-based EMS systems as win/win situations, providing more services to the public at a lower cost (Greiff, 1999). Fire service groups such as the International Association of Fire Fighters (IAFF) have promoted fire-based EMS as a natural extension of the fire service, as well as to preserve union jobs (Greiff, 1999). Communities support a fire-based EMS system when they realize more lives can be saved through such a system (Greiff, 1999).

Opponents of fire-based EMS systems include firefighters who entered the fire service only to fight fires, not to become EMS providers (Greiff, 1999). EMS providers and EMS agencies alike generally oppose fire and EMS consolidations due mainly to the possibilities of being displaced, eliminated, or relegated to a minor supporting role as a fire service wanting to provide EMS steps in (Greiff, 1999).

Fire unions in many communities are pushing to acquire EMS in the fire service; however, they are not asking their membership if they want to take on the additional duties and responsibilities (Gersham, 1994). Friction can and will arise when members interested only in fire fighting are asked to perform duties they did not enter the fire service to undertake (Gersham, 1994). Similarly, a majority of private ambulance service and third city service employees are where they are because they want to be health-care providers, not firefighters (Gersham, 1994). In some communities where the fire service has merged with EMS, a “stepchild” mentality still exists toward EMS (Gersham, 1994). In many communities where the fire department manages or oversees the EMS system, conditions such as pay, benefits packages,

and seniority are not the same for EMS as for Fire, and the fire fighters do not treat EMS personnel as equals (Gersham, 1994).

Similar to Gersham's perspective, EMS has become a foster child within the fire service according to Maniscalco & Sinclair (1998). EMS has become a part of the family, but not a full part (Maniscalco & Sinclair, 1998). Numerous major cities have amalgamated the provision of EMS under the control of their fire departments for reasons such as efficiency, effectiveness, and cost savings, which are all good reasons. However, many within the workforce of both the fire service and third service EMS feel threatened and fearful. "Many will become casualties and some will become walking wounded" (Maniscalco & Sinclair, 1998, p. 130).

It is incumbent upon the fire service to fully recognize the importance of the role EMS plays and minimize the shell-shock effect in the transition for all involved. Embracing EMS as a full fire service partner will go a long way in terms of retooling the organization for future survival and success (Maniscalco & Sinclair, 1998, p. 130).

Most entities involved in prehospital care are struggling to either define or redefine their roles as EMS providers. The labor force's position on this issue tends to be unclear at times as well. The primary purpose of various labor groups desiring to initiate, maintain, or increase EMS in their jurisdictions is probably a combination of providing the customer with the best service as part of our primary mission, along with the purpose of using EMS as another bargaining chip (Brame, 1994). While some departments may still be searching for their suited roles in EMS, one thing about the future of EMS is certain: "As long as there are people on earth there will be a need for prehospital services" (Brame, 1994, p. 24).

Staffing Options

According to the International Association of Fire Fighters (IAFF) (1999), requirements for staffing emergency response or transport vehicles may exist at the state or local levels, however, staffing for EMS service largely depends on the system design. “Industry standards, typically more stringent than state requirements, must guide decisions about the number and qualifications of response personnel available for a given call” (IAFF, 1999, p 31). At a minimum, there must be two qualified persons on an ambulance to be in service. Qualifications may include EMT-basic, EMT-intermediate, EMT-paramedic, or any combination of the three (IAFF, 1995).

Staffing for a fire-based EMS system makes the most sense in the terms of providing quality patient care and reducing costs (Maurno, 1996). Numerous variables exist, such as hiring paramedics or cross training firefighters to come up with the optimal staffing configuration for the jurisdiction. Several options exist for hiring and training personnel, depending on the system design (Maurno, 1996). Fire-based EMS can be divided between single function and dual function services. Single function services are typically paramedics not trained as firefighters. They are typically assigned to an EMS squad or ambulance. Dual function services are firefighters cross-trained as paramedics, considered the most frequently chosen option for paramedic engines (Maurno, 1996).

Many departments provide ALS non-transport services using quick response vehicles while others use ALS engines (Sachs, 1997). Both systems rely on the single function services, which could be public or private, to transport. Many departments are moving to an ALS transport service, with some successfully adopting a transport-capable fire-rescue unit that can

provide first response and transport services, as well as suppression capabilities for most fire fighting situations (Sachs, 1997).

Acquiring the needed staffing levels to support a fire-based EMS transport system can be done either through an extensive new employee hiring and training process, or through a merger with an existing EMS system. During the 1990s, many municipal EMS agencies merged with their fire departments (Garza, 2000). Most of the mergers were done as a way to provide for a more efficient and cost effective service. The mergers were also done to improve patient care by reducing management, eliminating the need to duplicate services, and improving EMS response times. The mergers were to offer access to more resources and provide better pay and improved career ladders for EMS personnel (Garza, 2000). How these mergers actually faired is addressed later in this section of the paper, under telephone interviews.

Theories/Models

Several change theories/models were discovered in the research. The most comprehensive of them all was the National Fire Academy's "Change Management Model." According to the National Fire Academy Strategic Management of Change (SMOC) Student Manual (1996), the change management model involves a systematic progression of behaviors designed to assist those who must facilitate and adapt to rapid changes in fire and emergency service delivery. The model consists of a systematic four-phase process: analysis, planning, implementation, and evaluation/institutionalism. The analysis phase is an overall needs assessment. The planning phase involves: developing a vision of the change; defining goals, objectives, methods, and strategies to achieve that vision; and identifying organizational characteristics that may impede achievement of the vision. During the next phase, the implementation phase, procedures and strategies detailed in the planning phase are executed and

behaviors most likely to ensure successful implementation are performed. The last phase is the evaluation/institutionalism phase. During this phase the change management plan is evaluated, adjusted if needed, and institutionalized when the organization continues to operate in accordance with the change (National Fire Academy, 1996).

According to Miller Consultants (2001), certain facts regarding the nature of change in an organization are constant, regardless of the purpose or scope of the organizational initiative. In this model, questions such as who, what, when, where, how, and why relating to the following five facts must be answered by the management team to successfully manage the transition (Miller Consultants, 2001):

Fact #1: Successful transitions require leaders to communicate a clear image of the future.

Fact #2: Successful transition management requires systems that support the desired changes, such as rewarding people for the right behaviors.

Fact #3: Some aspects of the transition are more critical to success than are others.

Fact #4: Some resistance is inevitable.

Fact #5: Change requires people to acquire new knowledge and skills.

Sachs (1995), believes that fire chiefs need the knowledge, skills, and abilities to move forward into the future to effect change, and to break traditional paradigms that have held the fire service back for so many years. One way to do this is to follow the “EMS Leadership / Management Process” taught by the National Fire Academy (Sachs, 1995). The process uses the following six steps:

Step 1: Adopt a vision – in order to develop an effective, viable EMS system consistent with that vision.

Step 2: Analyze current system – as a base line from which to effectively lead that system toward fulfillment of its mission.

Step 3: Establish plans – necessary to accomplish the vision.

Step 4: Direct implementation – of plans and policies required to achieve the vision.

Step 5: Monitor effectiveness – of changes through sound techniques.

Step 6: Revise appropriately – by generating solutions to refine and improve the system.

Telephone Interviews

The Grand Prairie, Texas Fire Department transitioned to a fire-based ALS transport system on August 1, 2000. The decision to make the transition came from the concerted efforts of the Fire Chief, Mayor, and City Council. Dissatisfaction with the overall level of care and services provided by the private ambulance company were cited as the major factors for making the transition. The issues and effects that evolved on the management side of the transition were two fold: putting together a competitive bid for the ambulance contract and dealing with the effects on the personnel involved in the change. These difficulties were overcome by good communications and by the labor and management teams working together. Areas that went well in the transition were the department's abilities to train existing personnel to the paramedic level along with the authorization to hire and train the needed additional personnel well in advance of the transition. The department did not use any particular model for making the transition. Information was gathered through other departments providing ALS transport and from information obtained through the International Association of Fire Fighters' Emergency Medical Services Section. Recommendations offered from this department to others contemplating the transition included: communicate well and often with members; hire the

needed additional personnel well in advance of the transition; and include members in making the transition plans (S. Cary, EMS Lieutenant, interview communication, May 18, 2001).

The Los Angeles City, California Fire Department merged with the third service hospital system in the early 1970s. The same single function fire fighter and single function paramedic system operated as such until the mid-1990s, when the two were then consolidated. At that time the paramedic job classification changed to a fire fighter classification. Many personnel lost their identities on the paramedic side. Fire fighters resented the paramedics being called fire fighters. The decision to make the consolidation came from political pressures and a city project team developed by the Chief Administrative Officer. Factors that contributed to the decision to make the transition came from pressure to allow paramedics access to all job classifications in the fire department. The consolidation allowed paramedics who wanted it to receive fire training and become cross-trained. There remained however, two separate unions. Early problems arose when the fire training programs for these paramedics were accelerated, causing corners to be cut and physical standards relaxed. In addition, problems with overtime issues related to Section 7(k) of the FLSA were realized. Single role paramedics receive overtime after 40 hours worked while fighters are not required to be paid overtime until they have worked 53 hours per week. The aspect of the consolidation that went well was the Fire Chief keeping his commitment to allow cross training for those who wanted it, allowing for more career opportunities for both fire and EMS. The interviewee was not familiar with any particular model that might have been used to make the transition, other than the city project team developed several access plans for entering the fire service, none of which were ever implemented. Recommendations offered from this department to others contemplating the transition included: do a better job of marketing;

develop a clear program layout; listen to and address all issues from members (B. Cody, Battalion Chief, EMS Paramedic Coordinator, interview communication, May 24, 2001).

The New York City, New York Fire Department merged with the New York City EMS third city service in 1996. However, EMS is still a distinct operation from fire. Engines respond on critical emergencies as first responders. There is no cross training. The decision to make the transition came from the Mayor's office with the purpose of reducing redundancies such as payroll, training, and different protocols for fire and EMS. In addition, better patient care and better managed systems were expected from the merger. The initial plan was to run the ambulances through a battalion-based model, placing ambulances in approximately 60 fire stations and responding in those battalions. A deployment matrix was tried, but the department reverted back to the battalion-based model, thinly distributing ambulances to about 35 fire stations. The issues that evolved from the labor side of the transition included resentment on the side of the firefighters being made to do EMS, and the view by many on the EMS side that the merger was a hostile takeover by the fire department. No plan or information sharing took place prior to the merger. People did not want to participate and disinformation was being disseminated. With the merger now behind them, the EMS side is considered "uniformed members" of the city. This status gives them better benefits such as a 25-year retirement, a rank structure with equivalent titles although lower pay, and the opportunity to test for a position on the fire side. Recommendations offered from this department to others considering the transition included: communicate how the change will occur on all levels, develop an implementation plan; and include members on the plan development team (R. Teranova, Lieutenant, EMS Correspondence Liaison, interview communication, May 25, 2001).

The Norfolk, Virginia Fire Department merged with the Norfolk Department of Paramedical Rescue Services in April 1991. The decision to make the transition originated through a steering committee, which formed in 1988 and was comprised of eight members from the Norfolk Fire Department and eight members from the City Paramedical Rescue Service. The task of the steering committee was to bring to the table economic and staffing issues related to the decreased number of fire responses and the increased number of EMS responses. The ultimate decision was made to merge the two departments. The major issue that evolved on the management side was the lack of a standard that would require all officers to be cross-trained. Management's expectations were that all members would be cross-trained, however, it was met with great resistance at the officer level. Because of the resistance, no standards were developed that would require even a baseline cross-training program for all officers of both the Norfolk Fire Department and the City Paramedical Rescue Services. It wasn't until four years later, and with the appointment of a new Fire Chief, that the standard was finally developed. By that time the officer category lagged far behind. A large number of senior officers retired to avoid making the transition. The officers that stayed realized it was time to make a change to keep the department from losing positions and jobs. The majority of the department at the lower ranks made major contributions through their commitments to do the training and accept that this was the direction the department needed to go. In making the transition no specific model was used. An outside consultant was hired to make recommendations. Three organizational structures were presented for consideration, none of which were accepted. It was the recommendations presented by the steering committee that went forward. It included items such as pay and benefits parity along with promotional opportunities for those members in the Paramedical Rescue Services who cross trained. When asked what should have been differently, the response included clear training

standards and expectations for officers earlier in the process. A stronger element of staff coordination and training was needed to bring the program on line. Recommendations offered from this department to others considering the transition included: defining the organizational structure as an extremely important first step in the process; front-end loading the staff positions needed before initiating the program; hiring a full-time quality assurance (QA) officer early on, not some time after the service is up and running; establishing the QA position at the officer level or at a position of authority (D. Palmer, EMS Operations Chief, interview communication, May 30, 2001).

The San Francisco, California Fire Department merged with the San Francisco Department of Public Health Paramedic Division in July 1997. The City's public sector paramedics worked with civic leaders on a plan to reconfigure the emergency medical services, and then convinced them to adopt the plan, which called for merging EMS with the Fire Department. To accomplish the transition, open public process meetings and work groups came together to arrive at an agreement. It was, however, a very difficult transition for the fire department. Being a traditional fire service, most members did not want the emergency medical services. In addition, the department was transitioning to a new fire chief. The merger brought in over 200 new members who were being paid better than the firefighters. Interestingly enough, it was not the older members or the newer members, but the five to ten year members who turned out as the biggest opponents. Difficulties on the labor side existed due to the resentment of the firefighters. The difficulties were overcome through lengthy contract negotiations, through which the labor side realized more jobs and more money. Staffing of the response vehicles was accomplished through an Integrated Model or "split-crew staffing" model. Under the Integrated Model, a firefighter EMT and a paramedic are teamed up to work half a shift on the ambulance

and half a shift on the Engine, then two shifts on an Engine followed by one shift on an ambulance. The service is much better and the response times are now better as a result of the change. The department is moving toward a fully cross-trained/dual-role system for the future. In future hiring processes, all paramedics will be hired for fire fighter positions. All current fire fighters will not have to be paramedics. The message the command staff is sending to the organization is that EMS is our future. It is the desire of the command staff to have the company officers take more of a leadership role in the selling the EMS mission. Members are asked to realize that things don't always work out the way *they* planned it to, and providing a high level EMS system to the citizens is the direction the *department* is heading. To quote the closing remarks of the interviewee in relation to selling the EMS mission to the organization, "ratchet it up five times when everyone is tired of hearing it; you just can't do enough selling" (R. Shortall, EMS Chief, interview communication, May 31, 2001).

Summary

The critical findings of others who have published documents related to fire-based EMS through experienced mergers, acquisitions, and transitions all influenced this author's research project. These critical findings provided numerous insights, ideas, and recommendations into the many different avenues available for a favorable transition to a fire-based EMS system.

Telephone interviews were conducted with a total of five career municipal departments located throughout the country. These particular departments were selected based on their experiences with transitioning to a fire-based EMS system, which in this researcher's opinion qualified them as problem-area experts. The specific persons interviewed were selected based on their positions within the EMS divisions of the departments. The telephone interviews influenced the research project by providing information on what the departments were or were

not doing in the area of personnel issues and the human side of the transition that made a difference in the overall success to making the needed change. The information helped to guide this researcher in the development of a strategy for managing the human side of a transition to a fire-based EMS system within the Arlington Fire Department.

PROCEDURES

The purpose of this applied research project was to explore the issues of the effect on personnel involved in the transition to a fire-based EMS system and to recommend a strategy for successfully managing the human side of the transition

Research and data collection began with a literature review at the National Fire Academy's Learning Resource Center. Two subsequent literature reviews were conducted of material at the National Fire Academy's Learning Resource Center via the interlibrary loan process. Technical reports, articles in fire service trade magazines, previous Executive Fire Officer applied research projects, and fire service books and literature were reviewed for information pertaining to this applied research project. A literature review was also conducted at the City of Arlington Library. City of Arlington Fire Department's written documents such as department standard operating procedures (SOPs), policies, and memorandums specific to the EMS operations were reviewed as well. In addition, a search was also conducted on the Internet for information relative to this applied research project.

The information retrieved through the literature search was reviewed and scrutinized, and the information deemed to be pertinent to the present case was summarized for inclusion in the literature review section of the paper. The next step in the procedure was to apply the information extracted from the literature to the case at hand, namely the effect on personnel involved in the transition to a fire-based EMS system.

Research Methodology

This research project employed historical and action research methodologies to help guide the applied research project to find answers to the research questions.

Historical research methodology was applied to the literature reviewed to search for information concerning the effect on personnel as changes in the level of emergency medical services, including staffing options, occurred throughout the fire service.

Action research methodology was applied to the literature reviewed to search for theories or models that would be readily applicable and could be used in the development of a strategy for managing the human side of a transition to a fire-based EMS system.

Telephone Interviews

Telephone interviews with were conducted with a total of five career municipal departments located throughout the country. These particular departments were selected based on their experiences with transitioning to a fire-based EMS system, which in this researcher's opinion qualified them to be considered as problem-area experts. The telephone interviews were conducted during the month of May, and each interview lasted between 45 and 60 minutes.

The following five fire departments were interviewed by telephone:

Grand Prairie, Texas

Los Angeles City, California

New York City, New York

San Francisco, California

Norfolk, Virginia

Interview questions focused on the historical aspects that took place during the departments' transitions to fire-based EMS, as well as the action aspects that were recommended for departments considering a similar transition. Interview questions were pre-written and aided

in the structure of the telephone interviews conducted. The interview questions are located in Appendix A.

Assumptions

For the purpose of this applied research project, it was assumed that members contacted at the agencies interviewed were thoroughly knowledgeable of their department's issues, history and procedures effecting the transition to their current fire-based EMS systems. It was also assumed that all telephone interviews obtained by the researcher included factual information and were not biased by the interviewees' opinions, since this researcher considered them as problem-area experts offering sound recommendations for the possible enhancement of the Arlington Fire Department's EMS system.

Limitations

A limitation of this applied research project was that many departments are still wrestling with the mergers, consolidations, or the transitions they have made in their own departments because of the effects on personnel involved in the change. While numerous recommendations were made on how to overcome the problem areas caused by the change, only recently have these departments started to make progress on the personnel issues within their own departments.

Definition of Terms

Advanced Life Support (ALS). All basic life support measures, plus invasive medical procedures including intravenous therapy, cardiac defibrillation, administration of medications and solutions, use of ventilation devices, and other procedures by state law and performed under medical control (International Association of Fire Fighters, 1999).

Automatic External Defibrillator (AED). A device that administers an electrical shock through the chest wall to the heart using built-in computers to assess the patient's heart rhythm

and defibrillate as needed. Audible and/or visual prompts guide the user through the process (International Association of Fire Fighters, 1999).

Basic Life Support (BLS). Generally limited to airway maintenance, ventilation (breathing) support, CPR, hemorrhage control, splinting of fractures, management of spinal injury, protection and transportation of the patient with accepted procedures (International Association of Fire Fighters, 1999).

Cross-Trained/Dual-Role (CT/DR). An emergency service that allows personnel trained in emergency situations to perform to the full extent of their training, whether the situation requires firefighting or medical care. This system type offers a greater level of efficiency than its single-role counterparts (International Association of Fire Fighters, 1999)

Defibrillation. The delivery of a very large electrical shock to the heart which stops the abnormal activity and allows the heart to restart normally on its own. Defibrillation reverses certain types of cardiac arrest and restores functional cardiac activity when applied soon after the onset of cardiac arrest (International Association of Fire Fighters, 1999).

Emergency Medical Services (EMS) System. A comprehensive, coordinated arrangement of resources and functions organized to respond in a timely, staged manner to targeted medical emergencies, regardless of cause or patient's ability to pay, for the purpose of minimizing the physical and emotional impact of the emergency (International Association of Fire Fighters, 1999).

Emergency Medical Technician-Basic (EMT-B). The minimal level of training recognized by the National Highway Traffic Safety Administration for ambulance personnel and other responders who transport patients. EMT-B deals with assessment, treatment, and transportation of ill or injured persons (United States Fire Administration, 1997).

Emergency Medical Technician-Intermediate (EMT-I). EMT-I comprises the training required for EMT-B with additional specialized training in patient assessment, intravenous fluid administration, and advanced airway maintenance procedures. The administration of some medications is also allowed, depending on state or local protocol (United States Fire Administration, 1997).

Emergency Medical Technician-Paramedic (EMT-P). EMT-Ps perform invasive procedures including intravenous fluid administration, advanced airway maintenance, administration of a wide range of medications, interpretation of electrocardiograms, and defibrillation (United States Fire Administration, 1997).

First Responder. Designed for public safety responders who do not have patient transport responsibilities. Emphasis is placed on immediate care of critical injuries and illness and preparing for the arrival of the ambulance or the paramedic unit. First Responder is the lowest level of training recognized by the National Highway Traffic Safety Administration (United States Fire Administration, 1997).

RESULTS

Answers to Research Questions

Research Question 1. What has historically been the effect on personnel concerning changes in the level of emergency medical services (EMS) provided by the fire service?

The biggest EMS challenge to the fire service has been acceptance (Sachs, 1995). In the past, many fire fighters and fire chiefs wanted nothing to do with EMS because it was viewed as a new service and they had joined the fire department specifically to fight fires (Sachs, 1995). It was often just a lack of understanding about EMS, an insecurity about learning EMS skills, or a similar attitude that was actually the cause of this negativity (Sachs, 1995).

During the 1990s, several U.S. cities merged their municipal EMS agencies with their fire departments. In the process, the fire EMS mergers left many EMS providers unhappy. In Norfolk, Virginia, resistance from the merger came from both sides. There was resistance from fire fighters who didn't want to get involved in the medical side and some people on the medical side who didn't want to fight fires (Garza, 2000). In Louisville, Kentucky, it was more of a takeover than a merger according to the medical director. The fire department took over and EMS began to deteriorate (Garza, 2000). In New York City, many EMS personnel viewed the merger as a hostile takeover where management treated them like second-class citizens (Garza, 2000).

Research Question 2. What options are available according to the research to acquire the level of staffing needed to support a fire-based EMS system in the City of Arlington?

Acquiring the needed staffing levels to support a fire-based EMS transport system can be done either through an extensive new employee hiring and training process, or through a merger with an existing EMS system. During the 1990s, many municipal EMS agencies merged with their fire departments (Garza, 2000). Most of the mergers were done as a way to provide for a more efficient and cost effective service. The mergers were also done to improve patient care by reducing management, eliminating the need to duplicate services, and improving EMS response times. The mergers were to offer access to more resources and provide better pay and improved career ladders for EMS personnel (Garza, 2000).

Requirements for staffing emergency response or transport vehicles may exist at the state or local levels, however, staffing for EMS service largely depends on the system design, according to the International Association of Fire Fighters (IAFF) (1999). The Arlington Fire Department has not yet determined the system design of its ALS transport system.

Research Question 3. What insights can management literature or research provide regarding the human side of a major organizational transition?

According to James O. Page (1988), planning is an essential ingredient. If used before implementation of the EMS service and on a continuous basis after implementation, planning can identify potential conflicts within the agency and strategies can be effected to minimize or prevent such conflicts. While some of the most vocal opponents of fire department EMS programs have been found within the fire service, experience has shown that such resistance can be penetrated and that equally strong supporters can arise from the ranks of the original opponents (Page 1988). Such a conversion can result from a program of internal orientation. The command structure of a fire department can serve as the most effective mechanism for such orientation. It may be necessary to conduct training programs for management employees however, to prepare for the orientation task. It is important for managers to always keep in mind the fact that support and clarity will have to flow from the top if the program is to function successfully (Page, 1988).

When determining how to upgrading from BLS to ALS, according to Gordon Sachs (1997), the best place to start is right at home. Generating support from the firefighters who will be providing the service is the most important step you can take (Sachs, 1997).

Research Question 4. Which of the theories or models described in the literature can be adapted to the Arlington Fire Department in order to provide a framework for managing the human side of the transition to a fire-based EMS system?

Implementing change in a fire or EMS environment can be a huge undertaking. Strategic planning should be considered as a means for change when an organization faces issues such as the need for a new vision for the future (Shultz, 1996). Inherent in choosing strategic planning

as a vehicle for change is a willingness by the agency to include all levels of personnel in the planning process. According to Shultz (1966), as a proactive process, the basis for strategic planning lies in building consensus from everyone, including the front-line workers who will live the plan on a daily basis. Due to the ability to tailor it to the organization's needs, the National Fire Academy's change management model described in the literature can be adapted to the Arlington Fire Department for the purpose of assisting with a strategic action plan for managing the human side of a transition to a fire-based EMS system.

Detailed Results of the Telephone Interviews

Telephone interviews with were conducted with a total of five career municipal departments located throughout the country. These particular departments were selected based on their experiences with transitioning to a fire-based EMS system, which in this researcher's opinion qualified them as problem-area experts. The telephone interviews were conducted during the month of May, and each interview lasted between 45 and 60 minutes.

Of the five career municipal departments interviewed by telephone, four had transitioned to a fire-based EMS system by merging with third city services. Only one out of the five departments had transitioned to a fire-based EMS system without going through a merger.

Of the four departments that went though the transition as a result of the mergers, all cited the reasons of reducing redundant costs, improving response times, and improving the quality of patient care as the reasons for doing so. The one department that went through the transition without going through a merger cited the immense dissatisfaction with the overall level of care and services provided by the private ambulance company as the reason for doing so. This department chose to bid against the private ambulance company when their contract expired, and prevailed.

All five of the departments interviewed experienced personnel issues. The intensity and type of the issues varied, however, between departments. The four departments that went through the transition as the result of a merger experienced the most conflict. The reason for the conflict was the fact that the members of these departments were not cross-trained/dual-role and problems with pay, benefits, and seniority continues to this day. The department that took over from a private ambulance provider had the fewest issues and the smoothest transition on the human side. All members of this department became cross-trained/dual-role prior to taking over the ambulance service.

Final Product of the Action Research

The final product of the action research can be located in Appendix B. A strategic action plan has been developed by this researcher for the purpose of managing the human side of a transition to a fire-based EMS system. The components of the strategic action plan were devised from the research conducted and were considered critical aspects for a successful transition to a fire-based EMS system.

The current Mission Statement for the Arlington Fire Department is depicted in the beginning of the strategic action plan to illustrate the importance of EMS in the Arlington Fire Department.

The specific action plan objectives are listed in priority order to dictate the cumulative steps necessary for a successful transition. Action steps for each objective in the action plan will be required once the questions of who will do what, when, how, and why, are determined by the transition team.

Establishing a transition team is the first step in the strategic action plan. Developing a team of stakeholders to provide the needed input and direction will help

facilitate a smoother transition. Individuals who should be included on the team are the fire chief, command staff, first line supervisors, union representatives, members willing to lend their assistance to the team, and the medical director or representative from the formal medical community.

Developing an EMS value statement is necessary, for this is what defines the character of the organization.

Developing an EMS vision statement is necessary, for this defines where the organization is going.

Researching the various fire-based EMS models is necessary not only for the purpose of determining the best delivery system, but also for identifying the effects on personnel from a transition to that particular model.

Determining the staffing needs and obtaining the required personnel up-front instead of during or after the transition will make for a much smoother operation.

Determining the optimal certification levels to coincide with the EMS model chosen will prepare members in advance for any identified training that is needed.

Determining adequate time lines and sticking to them to properly prepare personnel for the transition is necessary to alleviate problems associated with rushing into a program unprepared.

Developing the strategic action plan with the five standards listed gives credibility to the system and to the transition team.

The last objective of communicating well and communicating often is crucial to the success of the transition. Departments that experienced the highest dissatisfaction

levels among members involved in a transition indicated the lack of communication as the major reason.

DISCUSSION

The results of this study clearly indicate that there is a need for managing the effect on personnel involved in the transition to fire-based EMS both in the fire service as a whole and specifically within the Arlington Fire Department.

The relationship between the study results and the specific findings of others indicate that continually shrinking budgets and public demands for increasing cost effectiveness in the delivery of emergency services has caused many municipalities to merge the EMS department with the fire department (Williams, (1995). While improved service to the public is ultimately the rationale for such mergers, service delivery can be potentially compromised when conflict arises among staff members from different departments (Williams, 1995). Differing task demands, differing organizational configurations and differing organizational cultures of fire and EMS departments make the possibility of conflict inevitable (Williams, 1995). For managers who are involved in combining fire and EMS services, the development of a strategy for conflict management is necessary to facilitate the merger process and to minimize the negative effects of conflict (Williams, 1995).

It is incumbent upon the fire service to fully recognize the importance of the role EMS plays and minimize the shell-shock effect in the transition for all involved. Embracing EMS as a full fire service partner will go a long way in terms of retooling the organization for future survival and success (Maniscalco & Sinclair, 1998, p. 130).

Implementing change in a fire or EMS environment can be a huge undertaking. Strategic planning should be considered as a means for change when an organization faces issues such as

the need for a new vision for the future (Shultz, 1996). Inherent in choosing strategic planning as a vehicle for change is a willingness by the agency to include all levels of personnel in the planning process. According to Shultz (1996), as a proactive process, the basis for strategic planning lies in building consensus from everyone, including the front-line workers who will live the plan on a daily basis. Due to the ability to tailor it to the organization's needs, the National Fire Academy's change management model described in the literature can be adapted to the Arlington Fire Department for the purpose of assisting with a strategic action plan for managing the human side of a transition to a fire-based EMS system.

This researcher's interpretation of the results is that organizational change is often difficult to remedy. The larger the organization, the harder it is to effect change. The results of the study also indicated that most fire departments merge with their publicly operated EMS to acquire the transport service. Reasons cited for the mergers are reduction of redundant costs, improving response times, and improving the quality of patient care. Departments that have transitioned to the ambulance service on their own have done so because of dissatisfaction with their private ambulance service. Regardless, all departments experience personnel issues to some extent when taking on the transport operations. However, departments involved in mergers have experienced greater conflicts. In most cases, the reasons for the conflict were cited as EMS not being cross-trained/dual-role, which led to problems with pay, benefits, and seniority, all of which continue to be issues to this day. The departments that transition directly to their own transport service have fewer issues and smoother transitions due to the fact that they are all cross-trained/dual role.

The organizational implications of the study results emphasize the need for a strategy to manage the human side of a transition to fire-based EMS. Expanding into the EMS transport

arena does not have to be overwhelming. As long as EMS transport is recognized as one of the principle services delivered by the fire department and everyone involved in the transition is aware of the importance and long-term positive effect the new service will have, all the considerations and requirements can be met. It takes commitment, a lot of effort, strong leadership and political savvy. Expanding into EMS transport is the right thing for a fire department to do, and it is happening all over the United States.

RECOMMENDATIONS

The problem, as previously stated, was that the City of Arlington Fire Department did not have a strategy in place for managing the human side of a transition to fire-based EMS. The purpose of this applied research project was to explore the issues and recommend a strategy for successfully managing the effect on the human side of a transition to fire-based EMS.

The research presented in this study has demonstrated the need for the Arlington Fire Department to develop a strategy for managing the human side of the transition to fire-based EMS. Based on the literature review, telephone interviews, and the analysis of the results of this applied research project, the following recommendations have been designed to facilitate the transition to fire-based EMS.

1. The department should establish a transition team that includes members from each division of the department, including administration.
2. The department should address the personnel issues associated with the transition as a priority of the transition implementation plan.
3. The department should develop a strategic action plan for managing the human side of the transition.

4. The strategic action plan should be reviewed and updated periodically following its development.
5. The department should communicate well in advance with all of its members when the actual decision is made to transition to a fire-based EMS system.

Future readers who may wish to replicate some or all of the study within their own organization should consider starting with the information offered in the National Fire Academy's Strategic Management of Change course. In addition, the United States Fire Administration offers an excellent publication titled "Implementation of EMS in The Fire Service," which is also a valuable source of information. The International Association of Fire Fighters offers a well-written publication titled "EMERGENCY MEDICAL SERVICES – A Guide Book For Fire-Based Systems –," which is another very valuable source of information.

Telephone interviews were also very helpful in understanding first hand what conflicts an organization can expect during a transition.

Finally, organizations should appreciate that conflict is inevitable and should plan to provide ample training and development of staff prior to the transition.

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APPENDIX A

Applied Research Project

Telephone Interview Questions

1. When did the transition to ALS transport occur in your department?
2. Where did the influence or decision to make the transition originate from?
3. What were the factors that contributed to the decision to make the transition?
4. What issues and effects did the transition have on the management side?
5. How were difficulties addressed and overcome on the management side?
6. What issues and effects did the transition have on the labor side?
7. How were difficulties addressed and overcome on the labor side?
8. What was done well during the transition to make it successful?
9. Was a model of any type used for the transition?
10. If it could be done over again, what, if anything, would be done differently to make the transition more successful?
11. What advice would you give to others who are contemplating the transition to ALS transport in their departments?

APPENDIX B

EMERGENCY MEDICAL SERVICE

STRATEGIC ACTION PLAN

The mission of the Arlington Fire Department is to provide the citizens and visitors of Arlington an effective, well trained team of professionals to protect their lives and property through fire prevention and education, emergency medical/fire suppression/rescue services and Emergency Management. Our mission focuses on preventing emergencies as our first priority. In response to emergencies that could not be prevented, we have added an emphasis on rescue skills and emphasize our growing emergency medical role. Two-thirds of our emergency responses are EMS related. With the probability of increasing our EMS responsibilities in the future to a fire-based ALS transport system, the need to manage the personnel effects of the transition must be anticipated and planned for.

Specific Action Plan Objectives

- Establish a Transition Team for the purpose of providing input and direction.
- Develop an EMS value statement to identify our commitment and reflect the way we, as a department, address our mission.
- Develop an EMS vision statement to express what we want the organization to be in the future.
- Research the various fire-based EMS models to determine the optimal plan for service delivery to the citizens and visitors of Arlington.

- Determine the staffing needs to coincide with the chosen fire-based EMS model.
- Determine the optimal department certification levels based on the EMS model chosen.
- Determine adequate time lines to develop and implement the chosen EMS model.
- Develop the strategic action plan with the department's five standards of candor, respect, kindness, integrity and humor included.
- Communicate, Communicate, Communicate (well and often).