Task Force on Emergency Medical Services

Report and Recommendations



District of Columbia



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Task Force Mission

The Task Force on Emergency Medical Services will examine the system-wide delivery of Emergency Medical Services (EMS) in the District of Columbia. It will give practical, timely, and strategic guidance on how to improve this critical service. The task force will focus on how the District can improve the management, training, operations and culture of the EMS function to provide the highest quality of professional and compassionate pre-hospital medical care. The task force will conclude its work by submitting a targeted set of recommendations and an implementation plan with input, process and output metrics, to the Mayor and DC Council.

Task Force Members

- Dennis L. Rubin Task Force Chair and Chief, DC Fire and EMS
- Adrian M. Fenty Mayor, District of Columbia
- Dan Tangherlini City Administrator, District of Columbia
- Linda Singer Attorney General, District of Columbia
- Vincent Gray Chairman, Council of the District of Columbia
- Mary Cheh Ward 3 Councilmember, District of Columbia
- Phil Mendelson At-Large Councilmember and Chair of the Committee on Public Safety and the Judiciary, District of Columbia
- Toby Halliday Rosenbaum family member
- Patrick Regan Rosenbaum family attorney
- Michael Williams, MD Medical Director, DC Fire and EMS
- Richard Serino Chief, Emergency Medical Services, Boston, MA
- Rebecca F. Denlinger Chief, Fire and Emergency Services Department,
 Cobb County, Georgia
- Joseph A. Barbera, MD Co-Director, George Washington University Institute for Crisis, Disaster, and Risk Management



A Letter from the Mayor

On January 6, 2006, the District of Columbia suffered a terrible tragedy when David E. Rosenbaum was assaulted on one of our city's streets, resulting in his death two days later. By appointing the Task Force on Emergency Medical Services (EMS), my goal was to learn lessons from what transpired on that day and to work to ensure that, in the future, any individual who calls EMS is provided with fast, compassionate, and professional care at every stage of the process.

This report is the first step in attaining that goal and represents the culmination of a lengthy process of collaboration and deliberation by the Task Force. It summarizes the work of the Task Force, including its research into best practices, its efforts to obtain input from members of the public and other stakeholders on how to improve EMS, and its set of recommendations for reform, at both the city-wide, systemic level, as well as within the Department of Fire and Emergency Medical Services (FEMS).

The recommendations of the Task Force address longstanding obstacles to reform of our EMS system. First, the Task Force recommends reforming the organizational structure of FEMS to elevate and strengthen the EMS mission. Over 75 percent of 9-1-1 calls from citizens to FEMS are calls for medical assistance. With an increased focus on the EMS mission, including a well-resourced Medical Director and Assistant Chief for EMS, as well as enhanced field supervision of EMS providers, the Department will be better equipped to provide the highest quality pre-hospital patient care for every call for service. In addition to this organizational reform, the combination of improved training, education and quality assurance, more frequent performance evaluation, and better employee qualifications and discipline will ensure that every employee of the Department provides the best possible emergency medical care.

Second, the Task Force recommends that FEMS transition to a fully integrated, all-hazards agency. This means that all candidates for operational positions going forward will be sworn, public safety employees who will be required to have the same minimum qualifications, and be cross-trained at basic levels of EMS, fire prevention, fire suppression, hazardous materials and technical rescue. The aim of this recommendation is to improve performance and eliminate a cultural divide that has persisted within the agency for too long – a divide that has created two performance standards, competition between divergent missions, and inequities in pay and benefits among employees. This recommendation of the Task Force seeks to treat all of the Department's employees fairly and equitably, and to unite them behind one mission: the delivery of the best EMS and all hazards service in the nation.

I want to thank the members of the Task Force for their commitment to achieving this goal and for the time they dedicated to compiling these recommendations. I am confident that residents of the District will benefit from their hard work for years to come.

Sincerely,

Adrian M. Fenty Mayor

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District of Columbia Task Force on Emergency Medical Services



Introduction

This report summarizes the work, findings, and recommendations of the Task Force on Emergency Medical Services (EMS) ("Task Force") appointed by Mayor Adrian M. Fenty on March 8, 2007.1

This report provides:

- Information on the genesis and work of the Task Force;
- Background on the DC emergency medical services system;
- An overview of Task Force meetings;
- A summary of benchmarking research and other analysis conducted by the Task Force, including discussion of the strengths and challenges faced by the Department of Fire and Emergency Medical Services (FEMS);
- A list of recommendations.

¹ The Office of the City Administrator (OCA) engaged the consulting services of The Abaris Group to assist OCA staff with the work of the Task Force. The Task Force appreciates the excellent research, guidance and support provided by The Abaris Group on this project.



BACKGROUND

Origin and Membership of the Task Force

On January 6, 2006, David E. Rosenbaum was assaulted on Gramercy Street in Northwest, Washington, DC. The Department of Fire and Emergency Medical Services (FEMS) responded and transported Mr. Rosenbaum to Howard University Hospital. Tragically, Mr. Rosenbaum died on January 8, 2006 due to a head injury sustained during the assault.

Following Mr. Rosenbaum's death, questions were raised about the emergency medical care provided to him by FEMS and Howard University Hospital personnel. On January 19, in a letter to the Office of the Inspector General (OIG), then-City Administrator Robert C. Bobb requested a review of the response to Mr. Rosenbaum. OIG conducted the review and issued a written report of its findings on June 15, 2006. OIG concluded that there was an "unacceptable chain of failure" in the provision of emergency medical care and other services to Mr. Rosenbaum as required by FEMS and Howard University Hospital protocols.²

On November 20, 2006, the family of David E. Rosenbaum filed a \$20 million lawsuit in DC Superior Court against the District of Columbia and Howard University Hospital, claiming that Mr. Rosenbaum was a victim of official negligence and medical malpractice.

On March 8, 2007, Mayor Fenty announced a settlement agreement negotiated by Attorney General Linda Singer and the Rosenbaum family. The settlement required the creation of a task force to investigate the circumstances surrounding the response of FEMS to Mr. Rosenbaum and the issuance of a report with recommendations for improving the delivery of EMS by FEMS in the District of Columbia within six months.

Mayor Fenty announced the following members of the Task Force on April 4, 2007:

Dennis L. Rubin - Task Force Chair and Chief, DC Fire and EMS

Adrian M. Fenty - Mayor, District of Columbia

Dan Tangherlini - City Administrator, District of Columbia

Linda Singer - Attorney General, District of Columbia

Vincent Gray - Chairman, Council of the District of Columbia

Mary Cheh - Ward 3 Councilmember, District of Columbia

Phil Mendelson – At-Large Councilmember and Chair of the Committee on Public Safety and the Judiciary, District of Columbia

² June 15, 2006 letter to Mayor Anthony A. Williams from Charles J. Willoughby, Inspector General.



Toby Halliday – Rosenbaum family member

Patrick Regan – Rosenbaum family attorney

Michael Williams, MD - Medical Director, DC Fire and EMS

Richard Serino – Chief, Emergency Medical Services, Boston, MA

Rebecca F. Denlinger – Chief, Fire and Emergency Services Department, Cobb County, GA

Joseph A. Barbera, MD – Co-Director, George Washington University Institute for Crisis, Disaster, and Risk Management



June 2006 Office of Inspector General (OIG) Report

The OIG investigation and report focused specifically on the medical response to David E. Rosenbaum on January 6, 2006. The report concluded that there was an "unacceptable chain of failure" in the provision of emergency medical and other services provided to Mr. Rosenbaum as required by FEMS protocols. The specific findings related to FEMS were as follows:

- Engine 20 personnel did not follow all applicable rules, policies, protocols, and procedures.
- Firefighter/EMTs did not properly assess the patient.
- Oral communication and standard reports were not adequate.
- The ambulance did not arrive on the scene expeditiously.
- Ambulance EMTs did not thoroughly assess the patient.
- Transport of the patient to the hospital did not follow FEMS' protocols.
- Ambulance EMTs did not properly document their actions.

The report recommended that FEMS take the following actions:

- Ensure all personnel have current required training and certifications prior to going on duty.
- Immediately implement a reporting form for firefighter/EMTs who respond to medical calls so first responder actions and patient medical information can be documented.
- Develop and implement a standardized performance evaluation system for all firefighters.
- Take steps to comply with its own policy on evaluating EMTs on a quarterly basis.
- Assign quality assurance responsibilities to the employee with the most advanced training on each emergency medical call. The designated employee should: (a) have in-depth knowledge of the most current protocols, General Orders, Special Orders, and other management and medical guidance; (b) monitor compliance with FEMS protocols by all personnel at the scene; and (c) monitor on-the-spot guidance as required.
- Promptly reassign, retrain, or remove poor performers.
- Consider installing global positioning devices in all ambulances to assist EMTs in expeditiously reaching their destinations on emergency calls.



³ *Id.*

Past Reviews of DC Fire and Emergency Medical Services

The work of the Task Force builds on a history of previous investigations of the delivery of emergency medical services through FEMS. In 1989, Productivity Management Services, the District's internal consulting group, culminated a two-year, 11,000-hour engagement with FEMS with the publication of a report titled *Blueprint for Change* The 130-page report documented the EMS areas studied and offered several recommendations for improving EMS delivery in the District.

In 1997, TriData Corporation and Arthur Andersen LLP conducted a comprehensive assessment of FEMS and produced a written report titled *Development and Implementation of a Management Reform Plan for the District of Columbia*. The assessment and report identified deficiencies and recommended specific actions for improvement.

In October 2002, OIG conducted a review of FEMS based on complaints from the public. Several problem areas were identified and suggestions were provided to the Department. The OIG again reviewed FEMS in June 2006, specifically the emergency response to Mr. David E. Rosenbaum (see previous section).

A matrix of the problem areas and recommendations from these four reports is included as Appendix I of this report. A review of all of these documents suggests that, although there have been some improvements made to the EMS system in the District, many historic problem areas remain unresolved today.

Task Force Meetings

The Task Force established an aggressive meeting schedule to meet the Rosenbaum settlement agreement's requirement that its work be completed in six months. It scheduled six meeting dates: April 17, 2007; May 24, 2007; June 18, 2007; July 17, 2007; and September 19 and 20, 2007. The Task Force added a working session on September 4, 2007 to continue discussions on its recommendations.

The kickoff meeting held on April 17, 2007 began with a presentation by the Inspector General, Charles Willoughby, on the OIG investigation into the District's response to the assault on David E. Rosenbaum. Dr. Michael Williams, FEMS Medical Director, then explained the actions FEMS has taken in response to the OIG report. Speakers for the two labor organizations that represent FEMS employees, American Federation of Government Employees (AFGE) Local 3721 and International Association of Fire Fighters (IAFF) Local 36 offered their views on the best ways to organize EMS delivery. Task Force members also briefly discussed it's the Task Force mission statement.

The second meeting was held May 24, 2007. The Task Force approved the following mission statement by unanimous voice vote:

The Task Force on Emergency Medical Services will examine the system-wide delivery of Emergency Medical Services (EMS) in the District of Columbia. It will give practical, timely, and strategic guidance on how to improve this critical service. The task force will focus on how the District can improve the management, training, operations and culture of the EMS function to provide the highest quality of professional and compassionate pre-hospital medical



care. The task force will conclude its work by submitting a targeted set of recommendations and an implementation plan with input, process and output metrics, to the Mayor and DC Council.

OCA staff also presented the findings of the benchmarking research conducted by the consultant on EMS best practices. Dennis Rubin, FEMS Chief and Task Force Chairman, gave a presentation entitled "EMS: The Path Forward," summarizing his vision for improving EMS within FEMS. The meeting included testimony by several members of the public, including current FEMS employees.

The third meeting was held June 18, 2007. Robert Malson, President of the DC Hospital Association, gave a presentation. Mr. Malson was joined by Dr. Joseph Wright, Medical Director of Emergency Medical Services at the Children's National Medical Center and Dr. Carlos Silva, Medical Director at the George Washington University Hospital. Dr. Bruce Siegel, a researcher at George Washington University, also gave a presentation on assessing the state of emergency care in the District of Columbia, a research project funded by the RAND Corporation and authorized by the Community Access to Health Care Act of 2006.

The Task Force then reviewed materials summarizing the strengths, weaknesses, opportunities and threats of different EMS systems, including the following models:

- Third service;
- Fully integrated fire-based;
- Fire-based with a partially separated EMS function;
- Public utility;
- Private service;
- Public health.

The fourth meeting was held July 17, 2007. The primary agenda item was the discussion of recommendations of the Task Force. Nine recommendations were under consideration, grouped into three areas:

- External issues;
- Workforce development issues;
- Operational issues.

The Task Force approved four recommendations in principle that covered external and workforce development issues, with leave for the staff to complete a final draft.

An all-day working session was held September 4, 2007 to continue discussion about recommendations. Chief Serino gave a presentation on Boston's delivery of EMS through a third service model. Task Force members worked through the structure issue. Members ultimately focused on how to elevate the EMS mission and how to offer better supervision and support to EMS providers within FEMS. Draft recommendations on this issue were discussed and approved in principle, although some members asked that the third service model idea remain under consideration by the Task Force. Task Force members also re-visited the workforce development recommendations considered



at the July meeting and made some specific changes in the wording and timing of those recommendations.

The Task Force met again in a closed working session on September 19, 2007. Members completed their work on the recommendations, including recommendations on Department of Health regulation of EMS, demand management and hospital closure issues, and operational issues covering peak load staffing, dynamic deployment, scheduling, ambulance duty and rapid EMS response.

At the Task Force's final meeting on September 20, 2007, members conducted a final review of their recommendations and discussed how an implementation plan for the recommendations could be developed, as well as last steps in completing the final report of the Task Force.



EMS BENCHMARKING RESEARCH AND FINDINGS

Survey Template

At the Task Force's request, The Abaris Group researched the practices of high performing EMS systems. Based on the priorities of the Task Force, OCA staff and the consultant developed a benchmarking survey template to collect information from other jurisdictions. The template addressed thirteen (13) specific areas consisting of:

- General system information (9 questions)
- Personnel practices and employee evaluations (15 questions)
- Training and certification practices (7 questions)
- Quality improvement practices (4 questions)
- Dispatch/communications processes (5 questions)
- Deployment strategies (18 questions)
- Command and control, medical direction, and documentation (7 questions)
- Budget issues (4 questions)
- Technology utilization (3 questions)
- Hospital diversion issues (4 questions)
- Demand management strategies (4 questions)
- System evaluation processes (7 questions)
- Other issues (11 questions)

The Abaris Group conducted the surveys through a series of telephone interviews with key EMS management personnel from each of the 11 jurisdictions.

While it is important to state at the outset that no single EMS system is considered a model system, "best practice" EMS systems generally are considered high-performance systems when they:

- Provide Advanced Life Support (ALS) level care;
- Achieve rapid response times for life threatening calls (8 minutes or less 90% of the time);
- Demonstrate strong medical direction and oversight
- Utilize variable shifts and staffing patterns;
- Employ state-of-the-art technology;



 Operate in-house quality improvement (QI) programs capable of measuring clinical performance.⁴

Each of the eleven systems surveyed employed one or more of these components of a high-performance EMS system. Several of the practices or programs used by the jurisdictions surveyed could be emulated by FEMS to enhance EMS delivery in the District, although it should be noted that FEMS already has some of the components of a high-performance EMS system, including the provision of ALS, rapid response times, and full-time medical direction.

Table A below lists the jurisdictions that were surveyed and the reasons they were chosen.

Table A

System	Comparable Call Volumes	Comparable Geographic Size	Comparable Resident Population	Comparable Daytime Population	Mentioned as Best Practice by Task Force/Presenters ¹
Austin (Travis County), TX	✓		✓	✓	✓
Boston, MA	✓	✓	✓		✓
Fairfax, VA					
Houston, TX					✓
Memphis, TN	✓			✓	✓
Montgomery County, MD				✓	
Phoenix, AZ					✓
St. Petersburg/Clearwater (Pinellas County), FL				✓	
Richmond, VA		✓			
San Diego, CA	✓				√
Seattle, WA	·	✓	✓		✓

⁴ Common clinical performance measures include pain management; customer satisfaction; trauma management; advanced airway management; and cardiac arrest data.



Table B below provides demographic information related to approximate population, geographical area served as well as a description of the density of the jurisdictions surveyed.

Table B

			Service	Density			
System	Resident Population	Daytime Population ²	Area (Square Miles)	Urban	Suburban	Rural	
Houston, TX	1,900,000	3,000,000	622	50%	35%	15%	
Phoenix, AZ	1,470,000	2,200,000	540	90%	10%		
San Diego, CA	1,250,000	1,250,000	320	60%	39%	1%	
Fairfax, VA	1,050,000	1,400,000	407	80%	20%		
Pinellas County, FL ¹	1,000,000	1,000,000	280	95%	5%		
Montgomery County, MD	960,000	960,000	497	38%	24%	38%	
Memphis, TN	850,000	1,000,000	350	75%	25%		
Austin (Travis County), TX	825,000	1,100,000	1,100	20%	20%	60%	
Boston, MA	590,000	1,200,000	49	100%			
Seattle, WA	585,000	1,500,000	83	50%	50%		
Washington DC	582,000	992,000	61	100%			
Richmond, VA	200,000	200,000	63	100%			

Notes: ¹ Winter population reaches 1,400,000 ² Daytime populations are estimated



Agency Structure

One of the survey's first findings was that high quality EMS is delivered in many kinds of systems and agency structures (a more detailed discussion of the structure issue is included under the EMS System Design Options section of this report). The systems surveyed ranged from fire-based to third service to private systems. Table C below provides additional information on the systems studied.

Table C

	Fire Dept Fi	rst Responders	Ambulance			
Suntain	Life Threatening Calls	Non-Life	Life Threatening Calls	Non-Life		
System	55	Threatening calls	2 21 2	Threatening calls		
Austin (Travis County), TX	BLS	BLS	3rd Service ALS	3rd Service ALS		
Boston, MA	First Responders	None	3rd Service ALS	3rd Service BLS		
Fairfax, VA	ALS	BLS	Fire ALS	Fire BLS		
Houston, TX	BLS or ALS	BLS	Fire ALS	Fire BLS		
Memphis, TN	ALS	BLS	Fire ALS	Fire BLS		
Montgomery County, MD	BLS or ALS	BLS or ALS sent only if BLS ambulance response is extended	Fire ALS	Fire BLS		
Phoenix, AZ	Closest unit & closest ALS	Closest unit	Fire ALS	Fire BLS		
Pinellas County, FL	ALS	None	Private ALS	Private ALS		
Richmond, VA	BLS	None	Private ALS	Private ALS		
San Diego, CA	ALS	None	Fire/Private ALS	Fire/Private ALS		
Seattle, WA	BLS	BLS	Fire ALS, can downgrade to Private BLS	No Initial dispatch		
Washington DC	ALS	BLS or ALS	Fire ALS	Fire BLS or ALS		

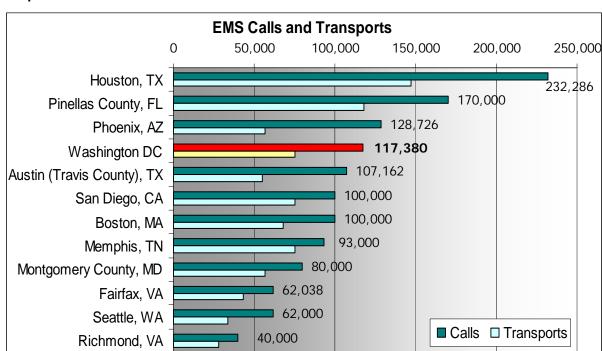
EMS Workload

The survey captured the main measures of EMS workload: 911 call volume, number of EMS responses, and number of ambulance transports. The comparison revealed that the District has very high call volume for a city of its size, the fourth-highest call volume of any of the cities surveyed. Even when adjusted on a per square mile or per capita basis, the District has the second-highest call volume of the cities surveyed.

Graphs A and B below illustrate the District's high EMS workload.

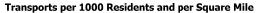


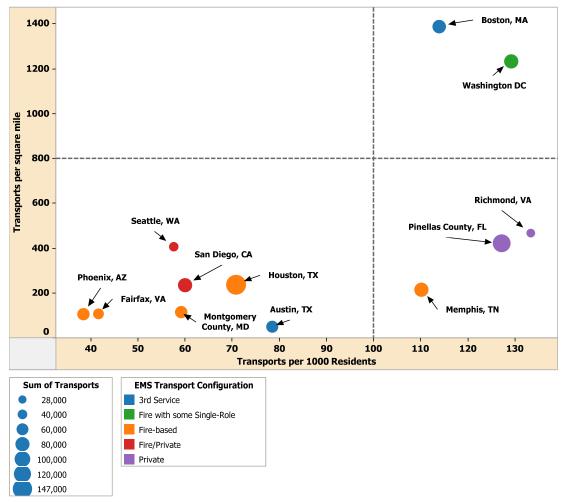
Graph A





Graph B





Demand Management Strategies

The District's high call volume suggests that it would benefit from improved demand management strategies, or strategies to reduce the number of non-emergency or otherwise inappropriate calls for EMS service. The benchmarking survey revealed potential areas where such a strategy could be focused. For example, DC FEMS is the only system surveyed that provides non-emergency transports from medical facilities and nursing homes to hospitals as part of the 911 response system. FEMS also responds to and performs more critical care transports than any other 911 EMS systems surveyed. In addition, a high number of EMS responses in the District involve non-emergency requests for assistance from the homeless, substance abusers, or patients with mental illnesses.

What are other systems doing to manage EMS misuse? Many of the systems surveyed by the Task Force use separate private ambulance services for non-emergency calls and rarely handle critical care transports or non-emergency transfers. The EMS systems surveyed are also using a variety of programs to reduce responses to high frequency



EMS users, including programs that divert serial inebriants to detoxification programs (San Diego Inebriant Program and San Francisco Home Team Program), programs that triage non-emergency calls at the dispatch stage (Richmond's Dispatch Nurse Triage Program), and education programs on the proper use of 911 (Care Houston).

Hospital Diversion Issues

The District's provision of EMS is also affected by the length of time FEMS ambulances spend dropping off patients at area hospitals. In comparison with the EMS systems surveyed, FEMS has significantly higher hospital diversion rates and significantly longer ambulance drop-off times. The benchmark survey indicated that all of the surveyed EMS systems are affected to varying degrees by hospital diversion practices and longer than desired patient drop-off times for patients transported to hospitals. Half of the systems reported that hospital diversion has a major impact on their EMS systems. Patient drop-off times ranged from 20 minutes to 41 minutes on average (with FEMS having the highest average at 41 minutes), while most have established a drop-off time goal of between 20 – 30 minutes. In addition to the benchmark survey, FEMS studied the issue of hospital wait times in early 2007 by surveying 100 of the 200 most populous cities in the United States. FEMS published a progress report on March 28, 2007 that showed DC's wait time was 79% longer than the average of the jurisdictions surveyed. FEMS' data indicates that 55% of the EMS call duration is spent in the hospital waiting to transfer care to the hospital staff.

How are other jurisdictions confronting the hospital diversion and drop-time issues? Some of the EMS systems are using EMS supervisory staff to respond to the hospitals in an effort to get ambulances back in service. Some of the EMS systems will "close" hospital EDs to ambulances when drop-off times start to get longer. Other EMS systems are moving to not recognizing hospital diversion, including Austin, TX; Boston, MA; Contra Costa, CA; Detroit, MI: Fresno, CA; Las Vegas, NV; and Tucson, AZ. In Las Vegas, legislation was enacted to limit diversion & hospital drop times. Table F below summarizes the hospital diversion information.



Table D

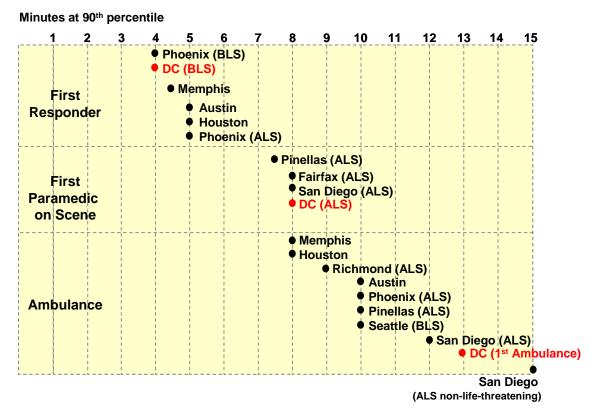
	Level of	Receiving	
System	Diversion	Hospitals	Notes
Austin (Travis County), TX	Minimal	10	Austin/Travis County does not recognize divert, will
			close hospital to ambulances when long drop-off
			times occur
Richmond, VA	Minimal		Drop times tracked, staying constant. Regional task
			force looking at issue
Seattle, WA	Minimal		
Memphis, TN	Moderate	14	No current diversion policy
Montgomery County, MD	Moderate		EMS supervisors respond to hospitals with delays,
			hospitals placed on divert if keep ambulance longer
			than 30 minutes
San Diego, CA	Moderate	18	
Boston, MA	Major	11	Lowest since 2000, suspended diversion for Oct-06
			and this summer
Fairfax, VA	Major	12	20 minute drop time goal, can be up to 60
Houston, TX	Major		Longer drop-off times
Phoenix, AZ	Major	28	EMS & hospital task force created to address issue
Pinellas County, FL	Major	14	EMS supervisors respond to hospitals with delays,
-			hospitals placed on divert if keep ambulance longer
			than 60 minutes or 2 for 30 minutes
Washington DC	Major	10	Average drop time 41.3 minutes, supervisor
			redirecting units at dispatch

EMS System Response Times

The benchmarking research suggests that FEMS response times are at the level of a high performance jurisdiction. FEMS has established response time goals that include having the first paramedic on-scene in 8 minutes or less 90% of the time and having the first ambulance on-scene 13 minutes or less 90% of the time. These times are measured on a regular basis and are being met and exceeded consistently. Of the systems surveyed, first-responder response time goals range from 4 - 8 minutes or less 90% of the time. Of the systems surveyed, most use ambulance response time goals ranging from 8 minutes to 12 minutes or less 90% of the time or less for life-threatening calls. Response time information is provided in graph D below.



Graph C



Personnel Practices

The hiring practices, work rules and employee representation for FEMS employees are unique in comparison with all of the other jurisdictions surveyed. This uniqueness may contribute to cultural problems within the agency. Of the EMS systems surveyed, each employ either all uniformed or all civilian personnel for field work. FEMS uses a mix of uniformed (dual-role employees trained in fire suppression, hazardous response and EMS) and non-uniformed employees (single-role employees trained only in EMS) for field workEach one of the fire or EMS agencies surveyed uses a single hiring process and common hiring standards for their recruits, and a single set of work rules for their employees. FEMS, on the other hand, uses two separate hiring processes and hiring standards: one for single-role positions and a different one for multi-role positions. FEMS employees also work under two sets of work rules and two bargaining groups, each with separate labor contracts and differing disciplinary processes.

EMS Certifications

Because the issue of having the proper or current EMS certifications of FEMS personnel was raised in both the 2002 and 2006 OIG reports, the EMS benchmarking survey asked jurisdictions how certifications are monitored and how the agency ensures they are current. All of the systems surveyed provided re-certification training as part of the on-



going continuing medical education (CME) training. Some of the systems have the Medical Director's office monitor expiration dates of individual providers' certifications. A few systems use specific software to track their personnel's certification status. Many of the systems provide performance feedback both to the individual holding the certification and the individual's supervisor on a periodic basis. In response to the 2006 OIG report, FEMS has implemented a practice of daily certification card inspections of EMS personnel. Benchmarking research suggests this practice may be excessive and that a more systematic approach would be better.

Performance Evaluations

The 2006 OIG report recommended that FEMS develop and implement a standardized performance evaluation system for all employees. Some of the Task Force members also voiced concern over the lack of regular clinical performance evaluations of FEMS personnel. For the EMS systems surveyed revealed that performance evaluations generally consist of standard annual performance reviews and some form of clinical performance appraisal. The frequency of the clinical appraisals ranged from monthly to annually, with most of the EMS systems conducting clinical performance evaluations on either a quarterly or semi-annual basis. EMS systems in Austin (TX), Houston (TX), and San Diego (CA) use EMS Battalion Chiefs or EMS Field Medical Officers in the field to evaluate clinical performance. FEMS is moving toward a similar system of field clinical evaluations for EMS incidents. In Phoenix, the Department's Medical Director evaluates clinical performance during monthly continuing education classes. When a clinical performance issue is identified, most of the EMS systems surveyed attempt to improve performance by employing retraining and education strategies before initiating any disciplinary procedures.

Quality Improvement

The 2006 OIG report recommended that FEMS make significant enhancements to its quality assurance/quality improvement (QI) program. All of the EMS systems surveyed have formalized QI programs with dedicated staff for the QI function. Many of the systems used a "peer-review" process where paramedics review care provided by other paramedics. Most also use clinical performance indicators consisting of cardiac arrest survival rates, including the presence of a pulse at the Emergency Department and the percentage of patients discharged from the hospital. Most also conduct some form of a customer service satisfaction survey for system feedback. Some systems have medical oversight provided by an external agency but most have the responsibility to ensure that patient care provided by their service is reviewed internally. The oversight provided by external agencies is mainly in the area of issuing certifications and licenses, vehicles inspections or permitting, approving equipment and medication inventories, and investigations of complaints made to the agency.

FEMS has some of the elements of a formalized QI program in place including a full-time medical director, the ongoing roll-out of an electronic patient care reporting (e-PCR) system, and the ability to measure cardiac arrest survival rates. FEMS also recently hired a Quality Medical Manager, who is a registered nurse, to oversee the Department's QI program. It should be noted that only four of the systems surveyed are using electronic patient care reports, although five of the systems are moving to an e-PCR system in the near future. Most of those surveyed said the QI process will be simplified and improved through the use of an e-PCR system, because the enhanced



data collection will increase the number of performance indicators that can be measured and make trends easier to identify.

Deployment Strategies

All systems surveyed use fire department first response units consisting of fire engines at both the BLS and ALS level. The minimum number of ambulances deployed by the systems surveyed range from 8 to 76 with the maximum number ranging from 15 to 76. The average number of daily unit hours for ambulances ranges from 232 hours to 1,824 hours. EMS calls per unit hour range from 0.17 to 0.70 for the systems surveyed. Calls per unit hour rations reflect the activity of the system and generally should be in the range of 0.30 to 0.40 for public agencies. FEMS deploys fire engines at both BLS and ALS levels as first response units. On average, 37.5 ambulances are deployed daily, equating to an average of 900 daily unit hours. FEMS is at 0.36 calls per unit hour for ambulances.

The EMS systems surveyed use both static (same number of units are deployed at all times), and dynamic (number of units fluctuates depending on call demand) deployment strategies. Most of the fire-based systems use a static deployment strategy while the third service and private service systems use a combination of static and dynamic deployment. Six of the third service and private systems use some form of system status management (SSM) for deployment of ambulances. SSM utilizes historical EMS response data, including the time and location of calls, from the systems CAD and with reasonable accuracy predicts the locations of EMS calls. EMS managers then develop a deployment plan based on this historical data and position EMS response units where the predicted calls will occur. Table E below illustrates the ranges of daily deployment of the systems surveyed.

FEMS uses a static deployment strategy, despite the fact that the daily EMS call volume in the District fluctuates with higher demands for service in the daytime and lower numbers of calls at night. An analysis of the ambulance staffing currently in place by FEMS indicates a surplus of ambulances during the night shift and that ambulance scheduling does not match the rise and fall of calls throughout the day. FEMS also uses a combination of both BLS and ALS ambulances that creates scheduling and deployment challenges. Detailed staffing charts contrasting call volume and the number of ambulances by day and time of day are included in Appendix II.



Table E

System	Max Units	Min Units	Avg Daily Unit Hours	Calls/ Unit Hour	System Status Mgmt
Pinellas County, FL ¹	45-50 ALS	12 ALS	662	0.70	Yes
Boston, MA	20 BLS 6 ALS	11 BLS 3 ALS	452	0.61	Minimal, dispatcher discretion
Seattle, WA ²	7 ALS 8 BLS	7 ALS 4 BLS	312	0.54	ALS is static, BLS is dynamic
Phoenix, AZ ²	20 BLS 13 ALS	16 BLS 5 ALS	648	0.54	Some static, some dynamic
San Diego, CA	29 ALS	21 ALS	552	0.50	Yes
Richmond, VA ¹	19 ALS	8 ALS	262	0.42	Yes
Austin (Travis County), TX ²	33 ALS	30 ALS	756	0.39	No
Washington DC	37.5 ALS & BLS	37.5 ALS & BLS	900	0.36	No
Houston, TX ²	54 BLS	54 BLS	1,824	0.35	No
Memphis, TN ²	33 ALS	33 ALS	792	0.32	No
Montgomery County, MD	24 BLS 18 ALS	22 BLS 18 ALS	984		No
Fairfax, VA ²	43 ALS	42 ALS	1,020	0.17	No

Notes: 1 9-1-1 and inter-facility units are combined

Challenges for FEMS

The benchmarking survey provided the Task Force with a baseline of information that could be used to assess FEMS strengths and areas in need of improvement. After comparing FEMS with the surveyed jurisdictions, the following strengths of FEMS were identified:

- Excellent distributions of Fire and EMS stations throughout the District
- Measurable rapid response times:
 - o 91% for first paramedic on-scene in 8 minutes or less
 - o 96% for first ambulance on-scene in 13 minutes or less
- Active and full-time Medical Director
- Partially implemented electronic patient care reporting (e-PCR) system

The following challenges for FEMS were identified:

• Two sets of separate hiring practices, work rules, disciplinary standards and bargaining agreements contribute to a cultural divide within the agency and inconsistent standards for employees.



² Estimated average daily unit hours based on minimum and maximum units

- Quality of training is uneven
- Lack of field clinical supervision and support for EMS
- Clinical evaluations of EMS personnel are infrequent
- A formal Quality Improvement program is not in place
- Prolonged hospital drop-off times
- High number of inter-facility transports and critical care transfers
- Static deployment strategy does not match dynamic population

EMS System Design Options

The Task Force members from the first meeting forward decided to explore all possible options for the delivery of EMS in the District. This decision was reflected in the Task Force mission statement's broad goal of examining EMS delivery by the District, rather than just by FEMS. At the request of the Task Force, staff and the consultant prepared a SWOT analysis⁵ of eight potential EMS system design options for the Task Force to consider. The types of EMS systems examined by the Task Force members included:

- Third Service
- Private Service BLS & ALS transportation
- Private Service BLS transportation only
- Fire-Based Service Current system
- Fire-Based Service Fully integrated
- Fire-Based Service Partially separated EMS function
- Public Utility Model
- Public Health Model

It was noted throughout the analysis that simply changing the structure and design of the system does not ensure an improvement in the quality of patient care or improve the supervision of EMS personnel responding to EMS incidents. At the June 18, 2007 meeting, the pros and cons of each system were analyzed by the Task Force. The third service and fully integrated fire-based options received the most attention. A summary prepared by the consultant characterized options for EMS support as follows:

Third Service: Positives

• Single focus mission approach;

⁵ The SWOT analysis examined the strengths, weaknesses, opportunities, and threats of each model.



- Workforce dedicated to the EMS mission;
- The type of system desired by some of the current single-role EMS providers and some citizen groups;
- FEMS' single-role providers already available for this type of system;
- Single set of work rules and labor contract for EMS employees;
- Improved public perception of EMS delivery.

Third Service: Negatives

- Duplication of functions and costs;
- Duplication of management staff;
- Significant impact on District budget;
- Significant amount of time required to implement, potentially delaying short-term improvement in quality of patient care;
- Would undermine District's progress toward integrating EMS within FEMS;
- Potential for on-scene conflicts over patient care (EMS responders would be on-scene from two separate agencies);
- Scene control and unity of command issues;
- Potential communications errors from adding another agency to dispatch.

Privatization of EMS Transport: Positives

- Contract-mandated performance;
- Ability to provide 911 and non-911 transportation services;
- Ability to implement peak staffing schedules;
- Ability to implement system status management (SSM) strategies;
- Improved billing and collection processes;
- Fast implementation
- Ability to allocate FEMS resources for other needs

Privatization of EMS Transport: Negatives

- Potential for increased ambulance fees;
- Potential for decreased service;
- Potential for subsidy provided by the District;



- Limited government control outside of any contractual provisions;
- Decrease in available surge capacity currently provided by FEMS in the event of a large scale emergency;
- Limited depth of skills and response capabilities (specifically hazardous materials and extrication services);
- Potential negative impact on preparedness during federal events in the District.

Fire-Based Options: Positives

- System already in place with existing facilities, vehicles, and personnel;
- Surge capacity immediately available for large scale emergencies and federal events;
- Integrated first response and ambulance transport function;
- Economy of scale with multi-role, cross-trained personnel;
- Possible development of a single set of work rules and single contract, as well as equal pay and benefits for all employees;
- Ability to identify EMS costs separately from first-responder costs;
- Perception that FEMS has improved its commitment to EMS.

Fire-Based Options: Negatives

- Public perception of no perceived improvement of EMS delivery and patient care;
- Without full integration and equal pay and benefits, single-role providers may feel they are being pushed out of the organization;
- Complete transition to all multi-role providers may take several years;
- Without full integration, fewer career advancement opportunities for single-role employees;
- Without full integration, separate work rules, labor contracts and cultural issues would remain.

The public utility model has similar strengths, weaknesses, opportunities and threats as the private models except the District would actually own the vehicles and equipment. The public health model has similar characteristics to the third service model, but would be operated by the Department of Health. The system design options spreadsheets with the complete list of strengths, weaknesses, opportunities and threats are included in Appendix III.

After considerable review, the majority of the Task Force members favored a fully integrated fire-based EMS system with more robust EMS management and oversight.



The majority of Task Force members felt that the benchmarking research and other presentations to the Task Force did not support the proposition that improved EMS delivery can only be accomplished with an entirely new organizational structure. Having made this decision, the Task Force still felt that dramatic change is required within FEMS to improve EMS service delivery. The recommendations in the next section are designed to produce such change.



Task Force Recommendations

Recommendation 1

The Department of Fire and Emergency Medical Services shall transition to a fully integrated, all hazards agency.

- a) All entry-level candidates for operational positions shall be required to have the same minimum qualifications. All operational employees shall be cross-trained at basic levels of EMS, fire prevention, fire suppression, hazardous materials and technical rescue.
- b) The Department shall offer current single-role providers basic training for all hazards on a phase-in basis. The Department shall allow single role providers to meet adjusted fitness standards that fairly and reasonably accommodate their incumbent status, including their age and level of experience.
- c) The Department shall continue to maintain a cadre of personnel who are specialized EMS providers at various levels of training who serve primarily in patient care. The overall size of the Department's workforce creates an opportunity for specialization among employees, permitting the inclusion of those with a passion for patient care without compromising excellence in fire suppression, rescue, hazardous materials response, and other services.⁶
- d) All employees shall have the same basic pay and benefits. The City Administrator shall develop a plan, no later than March 31, 2008, to transition to pay and benefits parity between current single-role medical providers and dual-role providers.

Recommendation 2

Reform Department structure to elevate and strengthen the EMS mission.

a) The Mayor shall appoint a Medical Director who shall hold the rank of Assistant Fire Chief. The Medical Director shall report to the Fire/EMS Chief but may be removed only by the Mayor. The Medical Director shall be a physician licensed to practice to medicine in the District of Columbia, board certified in a medical specialty that represents the broad patient base that EMS serves (emergency medicine, general surgery, family medicine, or internal medicine). Candidates must also have four years of substantial experience in EMS or other similar out-of-hospital care, including experience as EMS Medical Director, Assistant Medical Director or successful completion of a recognized EMS fellowship.

The Medical Director shall: provide medical oversight for all aspects of emergency medical services provided by the Department including, but not limited to written policies, procedures and protocols for pre-hospital emergency medical care, medical training, and quality assurance of medical services; supervise the administration of emergency medical care; and work collaboratively with the Fire/EMS Chief, assistant and deputy chiefs, and other personnel in the Department. The



⁶ It is the sense of the Task Force that the personnel referenced in Recommendation 1(c) would only serve on fire apparatus in cases of emergency or other serious need.

provision of emergency medical care by the Department's certified emergency medical technicians shall be under the license of the Medical Director.

- b) There shall be an Assistant Chief for Emergency Medical Services (EMS), reporting directly to the Chief of the Department. The Assistant Chief for EMS shall have at least 15 years of experience in the practice of emergency medicine as a paramedic or higher level of practice and leadership experience in EMS.⁷ The Assistant Chief for EMS shall have the staff needed to implement and sustain the recommendations and meet the objectives of the Task Force, and will have responsibility for analysis and planning for all medical units, including strategic planning, budgeting, program evaluation, special operations, and prevention.
- c) The Chief shall also create additional positions of EMS Battalion Chiefs and EMS Captains for the purpose of (1) ensuring strengthened, 24 hour a day, seven days a week, supervision of EMS delivery in the field and (2) creating an EMS career track for those personnel who are specialized EMS providers at various levels of training who serve primarily in patient care.
- d) Department leadership, at all levels, shall work to facilitate the integration of the full EMS mission and of single-role providers into multi-role operations. No later than November 20, 2007, the Chief will convene a group of departmental personnel, at least half of whom are current or former single-role personnel, to identify, review, address, and report to the City Administrator conditions that may convey a lower priority for the EMS mission or complicate integration of functions and employees. These issues include, but are not limited to:
 - Station alarm bells for fire apparatus calls but not ambulance calls;
 - Ambulances positioned at rear doors rather than front doors, when available;
 - Station names and insignia that omit or de-emphasize EMS apparatus;
 - Use of "DCFD" insignia on some vehicles, uniforms, and other locations;
 - Omission or lower emphasis on the contributions of single-role EMS providers;
 - Obstacles, perceived and real, to incorporating single-role employees and their workload into multi-role operations.

Recommendation 3

Improve the level of compassionate, professional, clinically competent patient care through enhanced training and education, performance evaluation, quality assurance, and employee qualifications and discipline.

Training and Education

a) The Medical Director shall implement, no later than December 31, 2008, a comprehensive training and educational program for emergency medical technicians and paramedics. The program shall include new employee orientation, periodic classroom and internet-based continuing training, case review and peer learning opportunities, simulation exercises and field-based training. The Department shall pursue partnerships with medical education institutions to enhance training and clinical practice and increase the internal training capacity of the Department. The training program may include Department and external trainers under contract, as deemed appropriate by the

⁷ It is the expectation of the Task Force that a national search will be conducted for this position.



Medical Director.

- b) The Medical Director shall establish, no later than November 20, 2007, procedures to certify the operational competency of medical providers at all levels of training within the Department. This may include, but is not limited to, (i) demonstration of compassionate and professional service to patients; (ii) successful execution of key clinical competencies in the field; and (iii) completion of a minimum number of hours or medical calls under provisional status.
- c) The Medical Director shall establish, no later than November 20, 2007, a process to evaluate current employees for proficiency at their respective levels of clinical privileges. This evaluation and certification process shall be completed not later than December 31, 2008. Effective December 31, 2008, response to medical calls may be provided only by Department apparatus with at least one field-certified provider as described above.

Performance Evaluation

- d) Effective immediately, the Medical Director shall oversee the clinical performance evaluation of all personnel with medical certification at least once a year. In addition to any other disciplinary basis (see sub-recommendation (k) below), based on the results of the annual performance evaluation, personnel may be approved for continued duty, assigned to supplemental training, placed on provisional EMS status, or temporarily or permanently relieved of their EMS proficiency status. The Department shall also provide enhanced field supervision as ongoing quality assurance for all personnel.
- e) The Medical Director shall establish, no later than December 31, 2007, a clearly documented chain of patient care with clear evaluation and treatment documented by each provider as follows:
 - The first arriving provider should document the situation as well as patient evaluation and treatment;
 - A formal process for "giving report" and transferring care to the next provider should be conducted; this process should be repeated as patient care is transferred until full transfer to emergency department staff or other appropriate final patient destination staff;
 - Documentation requirements should include: (1) all evaluation and treatment,
 (2) all providers, (3) all care transfers, and (4) documentation of arrival at the receiving facility as well as who and when the transfer to receiving facility personnel occurred.
 - Online medical direction to FEMS personnel shall be provided only by licensed physicians who are adequately trained and are designated as qualified by the Medical Director. Online medical direction shall be subject to the QI process.
- f) The Chief, no later than December 31, 2007, shall design and implement an annual program to recognize and publicly reward employees for EMS performance that demonstrates exceptional compassion, professionalism, and clinical competence.
- g) The Chief shall periodically conduct confidential, anonymous surveys of Department employees regarding their attitudes, concerns, and opinions relating to the Department's provision of emergency medical services. The first survey shall be completed no later than December 31, 2007.



Quality Assurance

- h) The Medical Director shall, no later than December 31, 2008, take the following steps to develop a performance evaluation and quality control/quality assurance:
 - Establish a FEMS peer review program that promotes a culture of excellence;
 - Work with other jurisdictions and the federal government to regionalize system management;
 - Issue customer satisfaction surveys, internal and external, that focus on EMS service;
 - Improve response time evaluation that has a goal of measuring time to patient's side;
 - Measure and analyze patient outcome;
 - Improve complaint tracking by FEMS.

Qualifications and Discipline

- i) The Chief shall, no later than December 31, 2007, establish hiring preferences for candidates and, subject to collective bargaining agreements, promotional preferences for employees with degrees from recognized accredited higher education institutions and relevant certifications or skills.
- j) The Chief shall require, effective with the next contract:
 - All personnel⁸ to maintain or acquire EMS certifications in order to be retained as employees of the Department after December 31, 2010;
 - All candidates for promotion to the rank of Sergeant or higher to have served as a field-certified EMS provider, according to criteria established by the Medical Director that requires a minimum cumulative number of patient contacts, assessments and treatments.⁹
- k) The Chief shall, no later than December 31, 2008, establish an Internal Affairs Unit, table of penalties, online records and tracking for Quality Assurance/Quality Control, and disciplinary timelines for operational employees. Penalties for employee misconduct should be swift, fair and appropriate.
- I) The District Attorney General, in consultation with the Chief of the Department, shall submit to the Chair of the DC Council Committee on Public Safety and the Judiciary, no later than November 20, 2007, recommendations to strengthen the Department's ability to terminate Department employees for medical malfeasance and misconduct.
- m) The FEMS Chief, Dr. Barbera, and Mr. Halliday shall complete a plan to monitor implementation and performance measures relating to the recommendations of the Task Force that includes input, process and output metrics. Progress on implementation and performance shall be monitored through ongoing CapStat sessions to which all members of the Task Force shall be invited,

⁹ It is the intent of the Task Force that this criterion will constitute a new policy that requires employees to demonstrate excellent performance in patient care before being promoted.



⁸ For the purposes of this recommendation, the term "personnel" does not include support or administrative staff, which includes communications and legal staff.

including sessions in April and October of 2008 that will specifically address the implementation and performance monitoring plan.

Recommendation 4

Enhance responsiveness and crew readiness by revising deployment and staffing procedures.

- a) The Mayor shall establish a goal of providing ALS response times according to the National Fire Protection Association Standard 1710, 100% of the time, as well as a goal of providing transport responses within 13 minutes, 100% of the time. The Department shall conduct quality improvement review of those calls where the goal is not achieved. No later than March 20, 2008, and every six months thereafter, the Mayor shall certify that the District of Columbia has met this goal, or announce what steps are being taken to achieve this goal.
- b) The Mayor and Chief shall work together to come with a recommendation to the Council to implement shorter shifts for all employees and other recommendations to ensure the goal of having alert and awake employees who can provide competent patient care.¹⁰
- c) The Chief shall establish, no later than March 31, 2008, and as available staff allows, a practice for assignment to transport duty in which employees are permanently assigned to ambulance service for periods of not less than 90 days, rather than intermittently with fire apparatus duty.
- d) The Chief shall report, no later than March 31, 2008, on procedures for peak load staffing of transport units, that enable an adequate number of units to meet response time targets. The Chief shall also establish by the same date a procedure for dynamic deployment of units to provide coverage when any particular area of the District experiences a shortage of available units.
- e) The Chief shall develop and implement a series of service delivery alternatives that provide efficient, rapid response with a variety of apparatus and personnel.

Recommendation 5

Reduce misuse of EMS and delays in patient transfers.

- a) The Chief, in partnership with other District agencies and providers, shall develop and begin to implement, no later than March 31, 2008, an outreach program for patients with chronic needs.
- b) The Chief, in cooperation with other District agencies, shall develop and implement, no later than March 31, 2008, a public education program regarding appropriate use of the 911 system.
- c) The Chief and the Director of the Office of Unified Communications shall, no later than December 31, 2008, collaborate to improve the 911/311 dispatch process so that call takers and dispatchers have improved training and enhanced ability to distinguish between emergency and non-emergency medical calls.
- d) The Medical Director, with the support of the City Administrator shall, no later than November 20, 2007, establish and clarify roles and responsibilities for the Department and the Metropolitan

¹⁰ It is the sense of the Task Force that the Mayor and Chief should consider schedules that avoid having employees work more than 24 consecutive hours, especially with additional hours on ambulances.



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Police Department for treatment of uninjured intoxicated patients and for transport of patients to the District's detoxification facility.

- e) Effective immediately, the Medical Director should exercise his full authority to order hospital emergency rooms within the District not to close to Department transports, and to require hospitals and medical providers to accept the transfer of care of a patient or patients within a specified period of time.
- f) The City Administrator shall, no later than November 20, 2007, convene a working group including hospital CEOs, DOH, and the Medical Director to meet quarterly to address and develop standards for drop times, diversion, and closure, and to improve procedures for tracking patient outcomes. The Medical Director should consider the results and recommendations of this group in exercising his discretion under the previous paragraph.
- g) The Medical Director shall, no later than September 30, 2008, develop a procedure to authorize patients to be transported to a pre-approved clinic or other non-emergency medical facility, appropriate to the patient's need.
- h) The Medical Director and the Director of the Department of Health shall develop and implement, no later than September 30, 2008, a system of alternative transportation options (such as scheduled van service, taxi vouchers, or MetroAccess vouchers), as well as protocols to refuse transport for non-urgent patients, when appropriate, subject to the authorization of a medical supervisor.



Recommendation 6

Strengthen Department of Health (DOH) oversight of emergency medical services.

a) The Director of the Department of Health, in collaboration with EMS stakeholders, shall, no later than December 31, 2007, draft legislation or regulations or other administrative actions to improve oversight of all EMS providers¹¹ and ambulance companies in the District of Columbia. The Mayor shall present the resulting draft to the DC Council for consideration. The legislation shall include, but not be limited to:

- License and/or certification requirements for EMS provider agencies, vehicles, personnel, and training facilities;
- Requirements for health care institutions, such as assisted care facilities, to
 provide or procure independent inter-facility transport services for nonemergent needs, and authority for DOH to impose fines and/or penalties for
 failure to comply;
- Specified levels of education, training, and satisfactory test performance in order to be lawfully assigned to work in an EMS provider capacity;
- Requirements for ongoing professional education and training and periodic recertification testing, both written and practical, administered by independent entities, as a condition for renewal of certification;
- Fair and effective enforcement, including sanctions for unacceptable performance and deliberate malfeasance, and standards and processes for revocation of EMS provider certification and EMS provider entity licensure and certification in appropriate cases;
- Requirements for all EMS provider entities, including the Department, to provide routine reporting on quality of care issues to the Department of Health;
- Authority to re-engineer the protocol revision process to improve the timeliness with which EMS protocols are updated; and
- Authority for DOH to issue fines and penalties to hospitals that fail to accept
 Department transports and assume care of patients within a specified period of
 time pursuant to the procedures established through recommendation 5 (f).

b) DOH shall immediately adopt the National Highway Traffic Safety Administration standards for EMS certification at all levels of training and as the minimum standard for the District of Columbia. Whenever possible, accreditation by nationally recognized bodies shall be adopted to establish testing and certification requirements.



¹¹ The phrase "EMS provider" includes all levels of EMTs and paramedics.

APPENDIX I

Matrix of Findings and Recommendations from Previous Studies of EMS Delivery in Washington DC

EMS Findings Matrix

Blueprint for

Area	Finding	Change	TriData	IG 2002	IG 2006
	Rising call demand (incidents per capita)	X			
Demand	Transporting patients who do not need an ambulance		X		
	No community outreach plan to educate public on when to call 9-1-1			X	
	Poor dispatch to scene time	X	X	X	
Response Time	Extremely ineffective first response by fire apparatus	X	X		
	FEMS does not measure significant time intervals impacting response time	e		X	
	Ambulance locations not chosen to reflect geographic demand variation	X			
	Inability to track staff with poor response/turnout time	X			
0	Inadequate knowledge of street addresses	X			X
Operations	No plan for dynamic unit re-deployment	X			
	No staffing change to reflect time of day variations	X			
	Outmoded EMS operating practices	X			
	Excessive drop time at hospitals		X		
	Heavy workload/too few units		X		
Workload	No provision for meal breaks		X		
	Personnel "Burnout"		X		
	Inadequate number of paramedics in Field Operations			X	
	Short career ladder (have to be trainer to become supervisor)	X	X		
	Absenteeism (300 hrs/FTE/yr of unscheduled leave)	X			
	Detailing ambulance field personnel to perform administrative work	X			
Staffing	Overtime costs (80,000 hrs in FY88)	X			
	EMS staff loss of benefits due to short week/long week schedule		X		
	Perceived lack of parity in pay and retirement		X		
	Vacancies for field positions		X		
	Inadequate training	X			
	Few paramedic training classes		X		
Training	Inadequate time spent training on geographical and navigaton unit			X	
	Standard of training at FEMS Training Academy questionable			X	
	Scope of EMT practice misunderstood				X
	Inadequate quality assurance	X			
	Inadequate supervision - number (1:28) and skill level (non-paramedic)	X			
	Chart review process handled manually		X		
Quality Assurance	No checkout procedure for firefighter EMTs		X		
	No QA oversight of firefighter first responders		X		
	CQI stopwatch monitoring of ambulance en route time is insufficient			X	
	CQI Unit not evaluating/monitoring field performance of EMTs			X	

EMS Findings Matrix

Blueprint for

Area	Finding	Change	TriData	IG 2002	IG 2006
	Some personnel working without proper certification			X	X
	Ambulance crew did not properly document actions on Form 151				X
	EMT with highest level of certification not in charge				X
	Faulty patient assessment / no thorough patient assessment completed				X
Quality Assurance	Faulty transfer of patient from ambulance to hospital ER staff				X
(continued)	FEMS requirement for completing form 902 EMS not followed				X
(continued)	No patient priority assigned or incorrect priority assigned				X
	Oral communication between first responders and transport flawed				X
	Oxygen delivery to patient contrary to protocols				X
	Patient's clothing not removed for thorough examination				X
	Transport decision not based on FEMS protocol				X
	Poor call to dispatch time	X			
	Poorly integrated field/communications operations	X			
Communications	Antiquated card-based medical priority dispatch system		X		
Communications	Communications not consistently professional		X		
	Comms division has no written polices and operating procedures			X	
	Communications division not meeting standards for response time			X	
	Fuel supply problems		X		
	Oxygen supply problems (ambulances out of service seeking resupply)		X		
Logistics	Vehicle wear and tear		X		
	Employees in Med Repair Unit lack training/resources to do proper repairs	\$		X	
	Equipment stored in Medical Repair Unit lacks accountability			X	
	Low reimbursement rate (9%)	X			
	EMS billing - paper handling problems		X		
Billing	EMS billing - poor documentation		X		
	EMS billing - poor facilities/antiquated equipment		X		
	EMS billing - work process inefficiencies		X		
Organization	Difficulties in accountability/discipline from split structure	X	X		
Organization	Difficulties in timekeeping from split structure	X	X		
Technology	Lack of computer maintenance		X		
	Little/no injury EMS public prevention education		X		
Other	Lax enforcement of uniform/clothing regulations		X		
	Deficiencies cited in prior reports not corrected			X	

EMS Recommendations Matrix

Blueprint for

Area	Recommendation	Change	TriData	IG 2002	IG 2006
	Implement the Omega protocol to identify calls that can be referred to other points in the		X		
	health care system				
Demand	Allow paramedics the option of refusing to transport patients not in need (or give tokens for		X		
	taxi or Metro service)				
	Gain PSAP accreditation (precursor to implementing the Omega protocol)		X		
	Develop procedures to minimize turnout time	X			
	Institute a policy to eliminate the need to close station house doors when proceeding on life-	X			
	threatening emergencies				
	Monitor response time of individual field personnel	X			
Response Time	Ensure that emergency medical response units adhere to national and FEMS standards for			X	
Response Time	response time				
	Ensure that data on all time intervals that affect response time are collected and reviewed on a			X	
	regular basis				
	Compile the en route times for all ambulances and PECs from the CAD system on a monthly			X	
	basis and share with CQI unit for monitoring				
	Shift to peak load schedules / Fully implement peak load staffing to match deployment of	X	X		
	units to time-of-day demand				
	Implement dynamic unit redeployment / Implement systems status management to spread	X	X		
	available vehicles according to geographic demand				
	Modify policy allowing crews to spend 45 minutes in the hospital after transporting a patient /	X	X		
	reduce hospital drop times to under 20 minutes				
	Fire units should respond to ALL calls, eliminating the current policy of conditional response	X			
	Discontinue paired response of ALS and BLS units	X			
	On non-critical calls, let firefighter first responders determine whether transport is needed	X			
Operations	Implement an all-ALS ambulance fleet (and hire/train paramedics to staff the units)	X			
Operations	Reassign ambulances to different locations to provided more balanced geographic coverage	X			
	Institute a clear policy on how and when crews are to be relieved	X			
	Develop procedures for crews to report equipment malfunctions in their vehicles	X			
	Acquire up to 15 additional ambulances to meet peak hour demand requirements		X		
	Implement paramedic engine companies to provide rapid advanced life support		X		
	Offer civilian EMS staff the opportunity to take firefighter training and switch to FFD		X		
	Remove engine companies from most "Bravo" level calls, to conserve resources for true emergencies		X		
	Give EMS crews formal breaks in their schedule (similar to police department)		X		
	Work with hospitals and health department to reduce hospital drop times		X		

EMS Recommendations Matrix

Blueprint for

Area	Recommendation	Change	TriData	IG 2002	IG 2006
	Augment the number of rapid response units (2 additional units)		X		
Operations (cont)	Develop ALS and BLS agreements with the Bethesda-Chevy Chase Rescue Squad to provide		X		
	EMS coverage in upper Northwest DC				
	Establish a project team to prepare detailed standard operating procedures (SOPs)	X			
	Institute a performance evaluation system for supervisors	X			
	Conduct an impartial review of the qualifications of incumbent EMS managers		X		
	Make the promotional process competitive (through an examination)		X		
Management	Eliminate or reduce the weight of the residential preference in making promotions		X		
	Establish clear promotional criteria tied to job descriptions		X		
	Develop and implement a standardized performance evaluation system for all firefighters.				X
	Evaluate EMTs on a quarterly basis, following FEMS policy.				X
	Promptly reassign, retrain, or remove poor performers.				X
	Reduce unscheduled leave of EMS personnel from 300 hours/year to under 150/year, through	X			
	improved management supervision				
Staffing	Hire enough EMS supervisors to provide for a 1:10 span of control	X			
Starring	Assess staffing shortages and determine how many additional paramedics should be hired			X	
	Coordinate with all senior level managers to address and take appropriate action with			X	
	employees who have patterns of abusing leave				
	Ensure that the locations of new areas and streets within the District are disseminated to all			X	
Training	FEMS employees, and incorporated into all geography and training classes				
Training	Establish qualifications and create a hiring policy for EMS training instructors			X	
	Assess qualifications of all EMS training managers and instructors			X	
	Ensure all personnel have current required training and certifications prior to going on duty.				X
	Immediately implement a reporting form that is mandated for use by firefighter/EMTs who				X
	respond to any medical call.				
	Assign quality assurance responsibilities to the employee with the most advanced training on				X
	each emergency medical call.				
	Hire additional evaluators for the CQI unit so that it can fulfill its mission			X	
Ovolity Assumance	Ensure that the CQI unit has the necessary staff and resources to complete field evaluations			X	
Quality Assurance	on paramedics within the 2-year certification period				
	Reassign all detailed CQI Unit evaluators back to the CQI office			X	
	Coordinate with DOH to develop a policy on paramedic certification extensions			X	
	Ensure that FEMS follows the most recent version of District regulations governing			X	
	paramedic certification and recertification				
	Develop a field evaluation process for basic EMTs similar to that used for paramedics			X	
	Hire sufficient staff to perform field evaluations on basic EMTs when feasible			X	

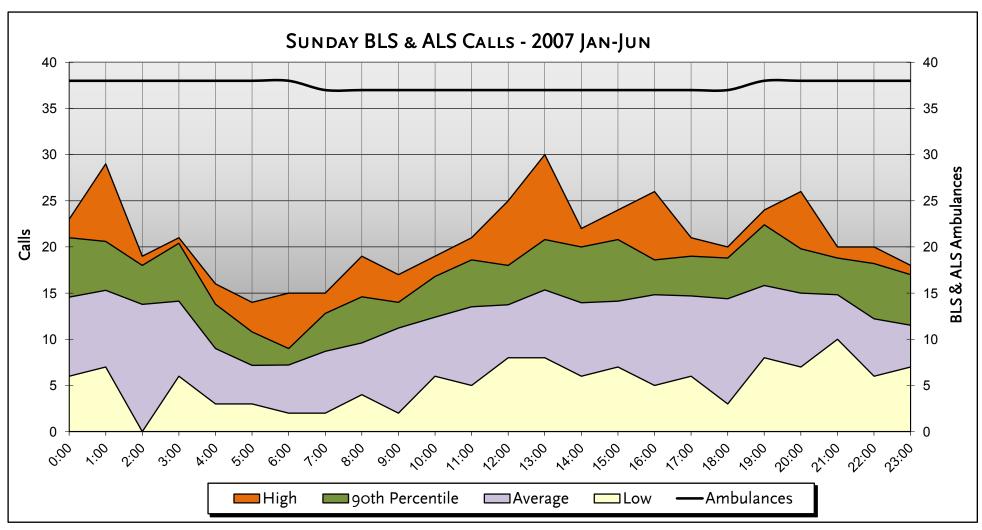
EMS Recommendations Matrix

Blueprint for

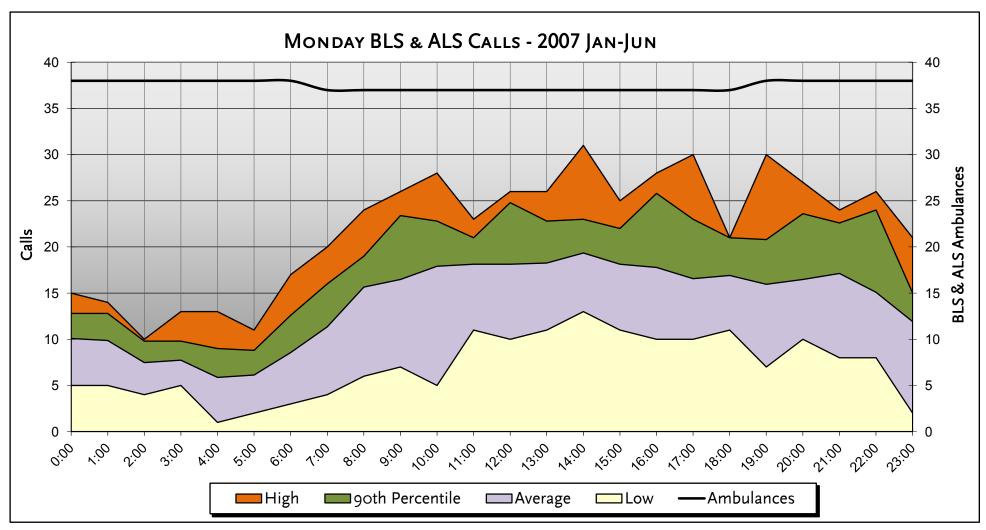
Area	Recommendation	Change	TriData	IG 2002	IG 2006
	Give dispatchers explicit command authority over field units	X			
	Implement ProQA medical priority dispatch (MPD) system		X		
	Implement an Automatic Vehicle Location (AVL) system		X		
Communications	Implement a Unit Statusing System (USS)		X		
	Ensure that there is adequate staff for the Communications division			X	
	Create and promulgate written policies and standard operating procedures for the communications division			X	
	Consider installing global positioning devices in all ambulances / implement an in-vehicle navigation system		X		X
	Establish a mobile supply unit to restock ambulances in the field		X		
	Limit access to all areas used by the Medical Equipment Repair Unit to unit employees during service hours		11	X	
	Hire staff in the MERU to expand the hours of operations from 16 to 24			X	
Logistics	Conduct an inventory of all equipment in the MERU on a regular basis and report			X	
8	discrepancies to division management				
	Identify training needs for MERU employees			X	
	Ensure MERU employees have the necessary tools to repair the agency's medical equipment				
	Coordinate with procurement officer to ensure that all contracts for the purchase of			X	
	equipment contain provisions for training MERU employees on how to make repairs				
	Reorganize EMS on a third service or separate ambulance department (alternatively, a cross-	X			
	trained, dual-role firefighter system makes sense from the perspective of cost and productivity				
Organization	Have EMS training and EMS QA report to the EMS medical director		X		
	Convene a panel to recommend between a separate EMS agency and a cross-trained, dual-role		X		
	department				
	Implement pen-based computer-assisted patient care documentation		X		
Technology	Automated quality assurance function using computerized documentation		X		
	Implement an inventory control system		X		
	Hire and train an EMS public education specialist		X		
Public Education	Develop and implement a written community outreach plan to educate the public on abuse of			X	
r uone Education	the EMS system and the impact on response				
	Ensure the public is well-informed about when to call 3-1-1			X	
Other	Organize a committee to review the 1989, 1997, and 2002 reports and develop a			X	
Oulci	comprehensive strategic plan to address the issues covered				

APPENDIX II

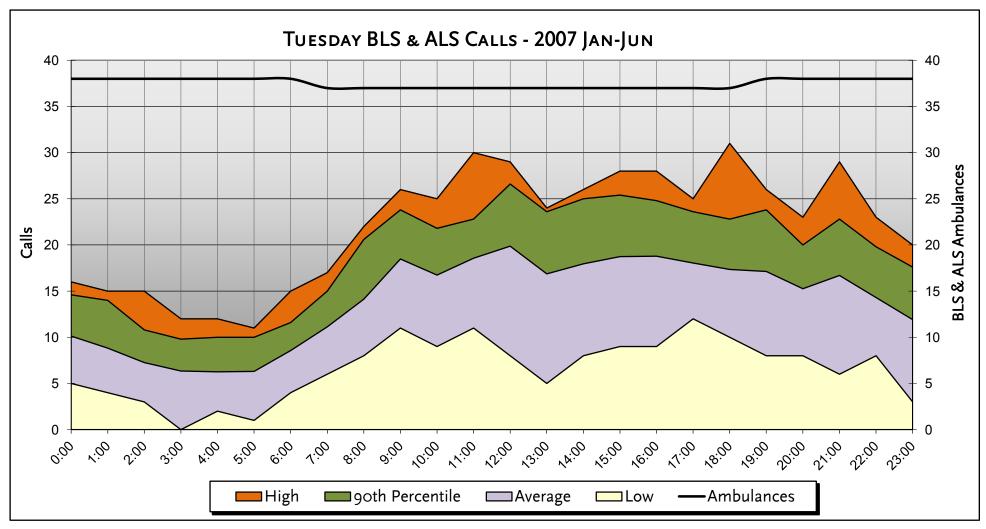
Peak Load Staffing Analysis



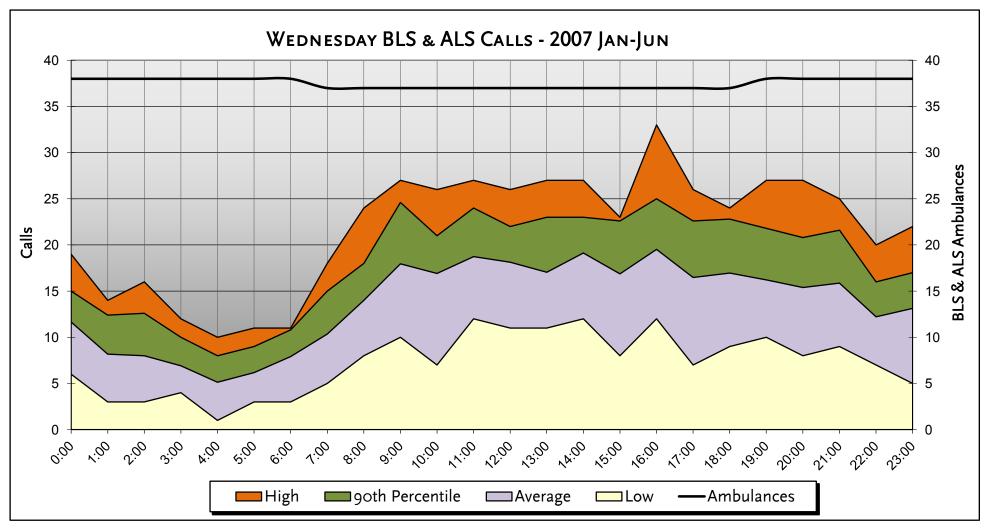
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High	23	29	19	21	16	14	15	15	19	17	19	21	25	30	22	24	26	21	20	24	26	20	20	18
90th Percentile	21	21	18	20	14	11	9	13	15	14	17	19	18	21	20	21	19	19	19	22	20	19	18	17
Average	15	15	14	14	9	7	7	9	10	11	12	14	14	15	14	14	15	15	14	16	15	15	12	12
Low	6	7	0	6	3	3	2	2	4	2	6	5	8	8	6	7	5	6	3	8	7	10	6	7
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38



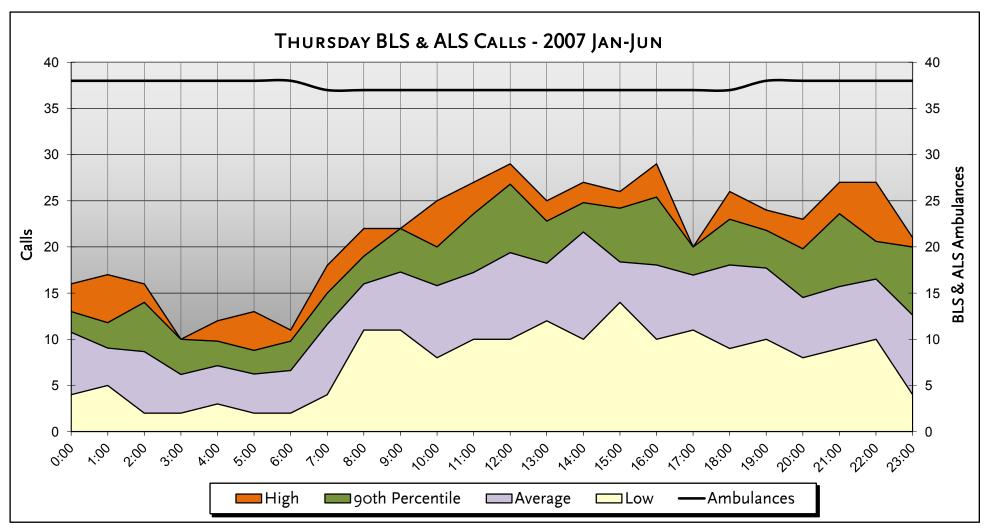
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High	15	14	10	13	13	11	17	20	24	26	28	23	26	26	31	25	28	30	21	30	27	24	26	21
90th Percentile	13	13	10	10	9	9	13	16	19	23	23	21	25	23	23	22	26	23	21	21	24	23	24	15
Average	10	10	7	8	6	6	9	11	16	16	18	18	18	18	19	18	18	17	17	16	16	17	15	12
Low	5	5	4	5	1	2	3	4	6	7	5	11	10	11	13	11	10	10	11	7	10	8	8	2
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38



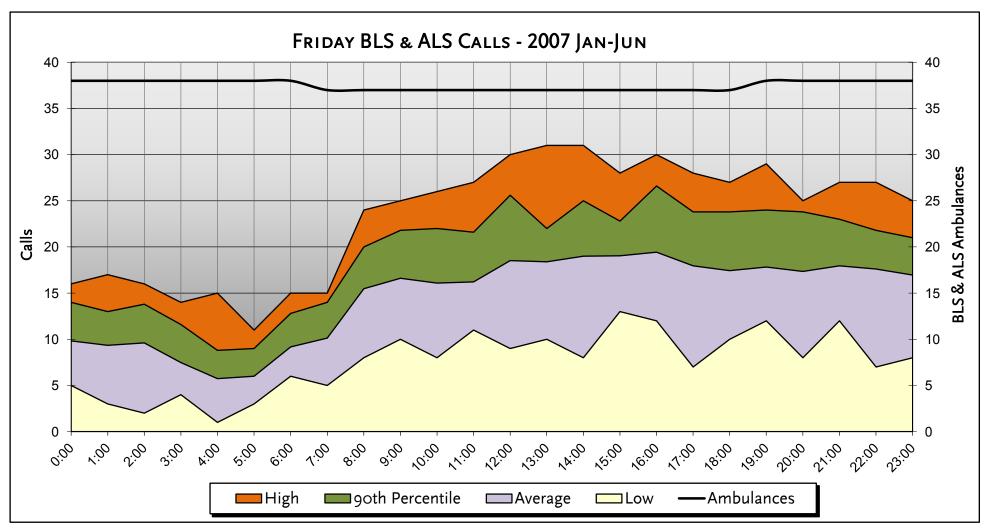
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High	16	15	15	12	12	11	15	17	22	26	25	30	29	24	26	28	28	25	31	26	23	29	23	20
90th Percentile	15	14	11	10	10	10	12	15	21	24	22	23	27	24	25	25	25	24	23	24	20	23	20	18
Average	10	9	7	6	6	6	9	11	14	18	17	19	20	17	18	19	19	18	17	17	15	17	14	12
Low	5	4	3	0	2	1	4	6	8	11	9	11	8	5	8	9	9	12	10	8	8	6	8	3
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38



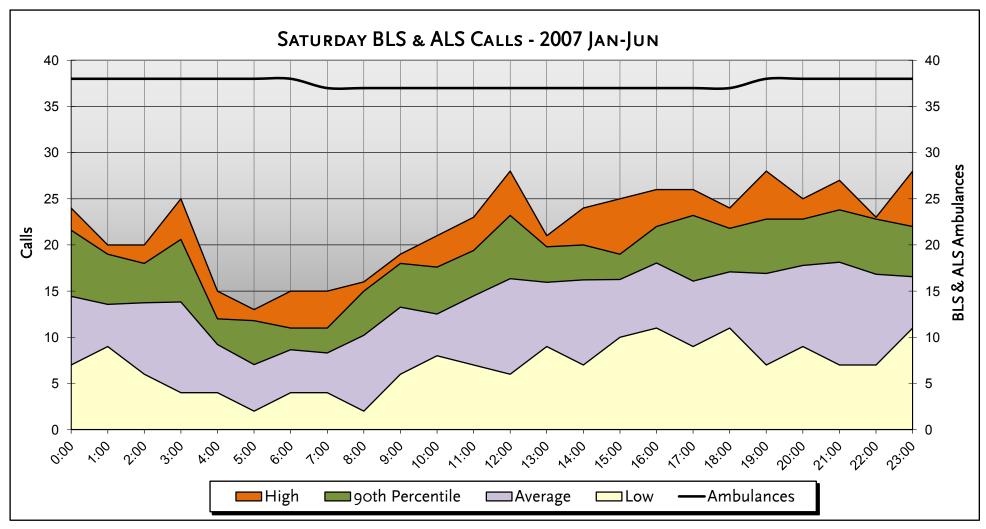
Hour of Day	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
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90th Percentile	15	12	13	10	8	9	11	15	18	25	21	24	22	23	23	23	25	23	23	22	21	22	16	17
Average	12	8	8	7	5	6	8	10	14	18	17	19	18	17	19	17	20	16	17	16	15	16	12	13
Low	6	3	3	4	1	3	3	5	8	10	7	12	11	11	12	8	12	7	9	10	8	9	7	5
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38



Hour of Day	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
High	16	17	16	10	12	13	11	18	22	22	25	27	29	25	27	26	29	20	26	24	23	27	27	21
90th Percentile	13	12	14	10	10	9	10	15	19	22	20	24	27	23	25	24	25	20	23	22	20	24	21	20
Average	11	9	9	6	7	6	7	12	16	17	16	17	19	18	22	18	18	17	18	18	15	16	17	13
Low	4	5	2	2	3	2	2	4	11	11	8	10	10	12	10	14	10	11	9	10	8	9	10	4
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38



Hour of Day	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
High	16	17	16	14	15	11	15	15	24	25	26	27	30	31	31	28	30	28	27	29	25	27	27	25
90th Percentile	14	13	14	12	9	9	13	14	20	22	22	22	26	22	25	23	27	24	24	24	24	23	22	21
Average	10	9	10	7	6	6	9	10	15	17	16	16	19	18	19	19	19	18	17	18	17	18	18	17
Low	5	3	2	4	1	3	6	5	8	10	8	11	9	10	8	13	12	7	10	12	8	12	7	8
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38



Hour of Day	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
High	24	20	20	25	15	13	15	15	16	19	21	23	28	21	24	25	26	26	24	28	25	27	23	28
90th Percentile	22	19	18	21	12	12	11	11	15	18	18	19	23	20	20	19	22	23	22	23	23	24	23	22
Average	14	14	14	14	9	7	9	8	10	13	13	14	16	16	16	16	18	16	17	17	18	18	17	17
Low	7	9	6	4	4	2	4	4	2	6	8	7	6	9	7	10	11	9	11	7	9	7	7	11
Ambulances	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	37	37	37	38	38	38	38	38

APPENDIX III

Models for Delivering Emergency Medical Services: Strengths, Weaknesses, Opportunities, and Threats

	Third Service A separate City Department with its own budget, management structure & staff utilizing single-role personnel to provide Advanced Life Support (ALS) level ambulance transportation	Private Service - BLS & ALS Transportation A contracted service with a commercial private ambulance service that provides transportation at the Basic Life Support (BLS) & Advanced Life Support (ALS) levels; BLS or ALS first-response units provided by the fire department	Private Service - BLS Transportation Only A contracted service with a commercial private ambulance service that provides transportation at the Basic Life Support (BLS) level; Advanced Life Support (ALS) provided by fire department first- response units (PECs or Other Type Vehicle)
Strengths	Separate city department Single focus mission approach Available work force (single-role providers) Dedicated workforce Decreased culture clash (Fire vs. EMS) Desired by current single-role provider workforce Desired by some citizen groups	Performance mandated by contract Decreased operating costs to the District Respond to 911 & non 911 transports Increased ambulance response efficiencies (peak staffing) System status management deployment	Performance mandated by contract Decreased operating costs to the District Respond to 911 & non 911 transports Increased ambulance response efficiencies (peak staffing) System status management deployment
Weaknesses	Duplication of functions/costs Duplication of management staff	Likely ambulance fee increases Likely need for District to provide subsidy	Likely ambulance fee increases Likely need for District to provide subsidy
	Limited career advancement options Significant roll out process Unwinds current significant progress to integrate	Loss of immediate FEMS surge capacity Limited depth of skills/response, i.e. Haz Mat, extrication Limited control outside of contract provisions	Loss of FEMS immediate surge capacity Limited depth of skills/response, i.e. Haz Mat, extrication Limited control outside of contract provisions
		Risk of decreased availability due to non-911 transports	Risk of decreases availability due to non-911 transports Need for FEMS Paramedic to accompany transport unit on ALS transports
Opportunities	Potential to enhance public perception Perceived enhanced medical treatment Ability to create stronger workforce relationship with hospital staff	High performance design by contract Fast option to implement Ability and speed to meet accreditation requirements (CAAS)	High Performance Design by Contract Accreditation Requirement
		Ability to reallocate FEMS resources for other needs	
Threats	Dudget import	Duefitabiliti.	Duafitability.
Tirreats	Budget impact Negative media attention	Profitability Higher percentage of personnel turnover	Profitability Personnel Turnover
	No perceived improvement over current system	Personnel unfamiliar with streets/addresses	Personnel Unfamiliar with Streets/Addresses
	Does not address underlying need on quality & supervision Culture clash risk remains due to need for fire first-response	Possible subsidy from the District Resentment by fire personnel Resentment by public Does not address underlying need on quality & supervision	Possible Subsidy from City Resentment by Fire Personnel Resentment by Public Does not address underlying need on quality & supervision
Community Examples	Boston EMS; Austin/Travis County EMS	Pinellas County, San Diego, Richmond	Seattle

EMS System Design Options 1

¹Changes with the structure of EMS governance does not assure changes to the quality and supervision issues needed.

		EMS System Design Options	
	Fire-Based Service - Current System The current fire department system in Washington DC using both single-role & multi-role personnel	Fire-Based Service - Fully Integrated 100% Paramedic Engine Companies providing ALS first-response with 100% Multi-Role Personnel; BLS Ambulances staffed with Multi-Role personnel; Single-Role personnel replaced through attrition with Multi- role personnel	Fire-Based Service - Partially Separated EMS Function Fire department first-response at both BLS & ALS level with multi-role personnel; BLS & ALS ambulances with single-role personnel; EMS function under the Medical Director with separate budget for Quality Improvement & Training staff
Strengths	Currently in place Adequate fire & EMS staff Fire station locations optimized All hazards mission approach Existing infrastructure & support services Existing management staff Existing apparatus/ambulances Integrated first-response & ambulance response Interchangeable personnel (multi-role) Career advancement options Response times meet or exceed industry standards Immediate surge capacity	Adequate fire & EMS staff All hazards mission approach Existing infrastructure & support services Existing management staff Existing apparatus/ambulances Integrated first-response & ambulance response Interchangeable personnel (multi-role) Career advancement options Response times meet or exceed industry standards Immediate surge capacity	Adequate fire & EMS staff Existing infrastructure & support services Existing management staff Existing apparatus/ambulances Integrated first-response & ambulance response Response times meet or exceed industry standards Immediate surge capacity
Weaknesses	Poor public perception Inadequate EMS on-scene supervision Static deployment Separate work rules for multi-role & single-role providers Separate labor contracts for multi-role & single-role personnel Perception of single-role providers towards FEMS commitment to providing EMS Disparity in pay & benefits (single vs. multi-role) Poor quality medical control issues	May still result in poor public perception Single-role providers may feel they are being pushed out of the organization Can take several years for complete transition & integration	May still result in Poor Public Perception Uncertainty for all personnel regarding future delivery of EMS Gives fire personnel a reason to not support EMS mission Competition for budget funds Continues to promote separateness of single-role & multi-role personnel
Opportunities	EMS Task Force Recommendations Current plan for enhanced medical direction New Fire Chief/Medical Director & support staff Increased hospital involvement & support	Single set of work rules Single labor contract for new hires All personnel have the same mission Enhanced on-scene supervision	Easier to identify cost of providing EMS, not including first-response Strong medical direction possible Enhanced on-scene supervision
Threats	Negative media attention Continued culture clash (Fire vs. EMS) Does not guarantee resolution of all identified underlying issues related to QI May be perceived as "business as usual"	Negative media attention Continued culture clash (Fire vs. EMS) until transition is completed Does not guarantee resolution of all identified underlying issues related to QI	Negative media attention May be perceived as "business as usual" Does not guarantee resolution of all identified underlying issues related to QI
Community		Phoenix Houston Memphis Fairfax County Montgomery County	

Community Examples

Phoenix, Houston, Memphis, Fairfax County, Montgomery County