



City of Fort Worth

Ambulance Service Assessment

Submitted by:

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Executive Summary

The City of Fort Worth engaged The Polaris Group to study the existing ambulance service provided to the City, provide an evaluation of the MedStar's performance comparing it to other EMS systems and design models and to make recommendations for improvements in the future. The study included a detailed review of system documentation, performance reports and financial data as well as direct observation and interviews with numerous stakeholders.

System Structure

The Area Metropolitan Ambulance Authority is the governing board of the MedStar Public Utility Model (PUM) EMS system. As the largest of the 15 cities participating in the system, Fort Worth appoints and is represented by a majority of the board members, giving the City effective control over the operation. The Public Utility Model was designed to take advantage of certain aspects of utility economics allowing the combination of a number of cities to gain operational and financial advantages by consolidating the provision of ambulance services under one exclusive, multi-jurisdictional operation. This was accomplished through the adoption of a Uniform EMS Ordinance and an Interlocal Agreement.

As originally established, MedStar directly, owned key system assets, provided for billing and collections and provided contract oversight for a competitively chosen private operations contractor. The failure of the previous operations contractor caused MedStar to temporarily take over responsibility for the direct management of ambulance operations. An amendment to the Interlocal Agreement subsequently allowed this arrangement to continue in the long term.

Transition From Regulator to Operator

Following the departure of the private contractor, MedStar began a long and painful transition from a role as a *regulator* to a *provider* of EMS services. The skill sets required for these roles are different. MedStar went through several disappointing years attempting to manage a complex and sophisticated business with a staff that had little applicable experience. Numerous service deficiencies became apparent during this period and a number of temporary measures were employed to improve



service, including deployment of Fort Worth Fire Department Assets to shore up service. After MedStar, acting on a recommendation from the Fitch Report, hired an experienced Associate Director to run the operation, the organization began to produce the operational results and reliability that it was designed to accomplish. Continuing changes in management and methods have allowed MedStar to continually improve its performance.

Findings & Recommendations

A principal finding of this study is:

MedStar is technically compliant with the Uniform EMS Ordinance and Interlocal Agreement and currently achieves levels of response time performance that are consistent with the expectations established for the operation, after adjusting for the elimination of the overload calculation exemption.

The Polaris Group makes the following recommendations:

1. Fort Worth should remain a member of AMAA and MedStar, using its majority position on the Board to influence service levels and costs.
2. Fort Worth should eliminate tax subsidy of MedStar, allowing full rates to support the operation during the next fiscal year and for the foreseeable future.
3. Despite certain recommended methods found in the Fitch Report, MedStar should continue to innovate and adapt its deployment practices to improve performance.
4. MedStar should continue the current trends in response time improvement and expand the Community Health Paramedic program to improve healthcare access and reduce needless ambulance responses.
5. MedStar has begun to effectively address personnel concerns through remediation and replacement of some paramedics and staff that are performing below expectations. These efforts must continue.
6. MedStar should follow GAAP standards when reporting financial information to the Board to reduce differences in reported results.
7. MedStar and the Board should consider opportunities for revenue enhancement through standby services and contracts.
8. The Cities should consider modifying the Ordinance to grant exclusive rights to MedStar for ambulance standby services.
9. The Medical Director should continue to serve as an *ex officio* member of the AMAA Board but without voting rights.
10. EPAB's annual funding should become part of the AMAA budget process and require AMAA Board approval to enhance public accountability .



Comparison to Selected EMS Systems

The City specifically requested that The Polaris Group conduct a comparison of MedStar's performance to that of other large cities in Texas and other public utility model systems. The cities selected were: Austin, which has a "third service" public EMS system; San Antonio, Dallas and Houston, each of which has a Fire-based EMS system; Arlington, which uses a private contractor under a franchise arrangement with Fire ALS first response; and two PUM's, MAST covering Kansas City, MO and EMSA, which serves both Tulsa and Oklahoma City, OK.

MedStar fared very well in comparison to the other systems in terms of both operational and financial performance. In general, the PUM's and franchise systems produced a lower cost per call than the third service or Fire models. MedStar produced the second lowest cost per transport and was only forty-eight cents (\$0.48) per transport more expensive than Arlington. At current subsidy rates, MedStar has the second lowest subsidy when expressed as both per transport and per capita while maintaining the second highest user fees and collections per transport. Subsidies alone in San Antonio and Houston significantly exceeded the total cost per transport at MedStar.

Comparison of System Design Models

The City also requested that the study include a comparison of costs for several system design options that might be implemented should Fort Worth choose to withdraw from the MedStar system. Each comparison used deployment and productivity assumptions based on common practices for each provider type. The system design options investigated included a Fire-based, Third Service and Franchise models. Each of the alternative models suffered from the same basic problem. Any system that sets out to serve only the City of Fort Worth would lose economic efficiency gained from the consolidation of geographic service area and call volume in comparison with the aggregate service area of MedStar's 15 cities. A Fort Worth only franchise model was the only alternative that came close to producing a zero subsidy charge per call as low as MedStar's. The franchise model would likely increase costs within other City departments due to the infrastructure required to oversee and regulate a contractor. Selection of a franchise contractor



would probably require an expensive and complex competitive procurement to provide a reasonable defense from anti-trust complaints. Finally, should the City wish to engage a private contractor, the AMAA Board and MedStar, having originally been established for that purpose, offer a more cost effective method and marginal cost savings due to the consolidated service area.

Implementation

Implementation of the recommendations within the report will require delivery of notification to MedStar that Fort Worth intends to end tax subsidy of the system. Further, implementation of some of the recommendations will require modification of the Interlocal Agreement and Uniform EMS Ordinance.



Scope & Methodology

The City of Fort Worth engaged The Polaris Group to review various ambulance service delivery models in order to determine each models relative efficiency, effectiveness, and underlying financial integrity. To make recommendations as to which service delivery model would best suit the needs of the City. To provide an implementation plan for any recommended changes. And, make recommendations for any improvements to the current service delivery model, even if continuing with this model is not the primary recommendation.

The City specifically asked for a comparison of various ambulance service delivery models including, Fire-based, and independent city department, countywide service, fail safe franchise and the public utility model. Another requirement was to review the EMS System analysis conducted for MedStar by Fitch and Associates in 2008 and provide advice concerning that study's recommendations and MedStar's progress in achieving them. During the course of the investigation, the City additionally asked that the study answer the critical question: "Is MedStar in compliance with the ordinance and interlocal agreement?"

Offsite Investigation

To accomplish these tasks, The Polaris Group solicited a large amount of data concerning the components of the system. This included organizational, operational, clinical and financial data for the Area Metropolitan Ambulance Authority (AMAA), MedStar, the Emergency Physicians Advisory Board (EPAB), and the City Fire Department. This information was initially reviewed offsite to familiarize the consulting team with the current organization and practices of the EMS system.

Onsite Investigation

Members of the consulting team made a number of visits to Fort Worth for the purpose of interviewing stakeholders, investigating and confirming system documentation and attributes and to directly observe the operation of the EMS system and its various components. Onsite visits included interviews with City Council members, City management and legal staff, the Fort Worth Fire Department, the Fort Worth Firefighters Association, AMAA board members, the City of Burleson, the system Medical Director and Associate Medical Director and members of MedStar management. During the onsite

visits, David Shrader, President of The Polaris Group participated in rideouts with Fort Worth Fire Department (Engine 2 and Battalion 2) and MedStar to observe the system directly. Consultant Joan Jordan, CPA observed the billing, collections and finance operation at MedStar and Dr. Eric Ossmann spent time reviewing EPAB and clinical matters with the Dr. Beeson and Dr. Griswell as the Medical Directors for the system. Consultants attended a meeting of EPAB and the Texas EMS conference for additional background information. As fate would have it, David Shrader also had the chance opportunity to observe an entire response to an emergency that occurred in a restaurant in which he was eating dinner from the moment the patient fell ill until the disposition of the call.

Analysis

Using the data and information acquired during the offsite and onsite investigation, the consultants compared performance and financial information to the documented commitments and goals of the EMS system, City expectations and the performance of other prominent EMS systems. As a portion of this analysis, The Polaris Group surveyed a number of EMS systems including: Dallas Fire-Rescue Department, Houston Fire Department, the San Antonio Fire Department, Austin Travis County EMS, Arlington, EMSA- the system serving Oklahoma City and Tulsa, MAST in Kansas City, Missouri, and SunStar which serves Pinellas County Florida. These systems were chosen to provide a sample of each system design specified for comparison by the City and to compare MedStar to other public utility model systems as well.

The Dallas Fire-Rescue Department declined to release any system data, citing that the Public Information Act did not require the City to participate by releasing the data. For the purposes of the comparison, the consultants have used information and data regarding EMS in Dallas from a number of sources including the City's budget, the Fire-Rescue Department website and a number of other publicly available sources. While the consultants used care to fairly represent the Dallas EMS data, the lack of City participation and explanation of the information greatly increases the likelihood that certain expenses or other items may have been underestimated.

A financial model was constructed to compare and contrast each of the City's options in system design and provide estimates of the financial implications of each. The model

uses assumptions about differences in system operation based on the operating characteristics of each type of provider.

Review of Preliminary Report

At this point in the process, the preliminary report was presented first to the City staff to review. Upon receiving comments and corrections from the City, several key stakeholders given an opportunity to review and submit comments. This was to assure that no material misstatements of facts have been inadvertently included prior to the presentation of the report to the City Council.



Current System Structure

The current EMS system serving the City of Fort Worth is a complex organization that assigns responsibilities for various components of the system to different organizations. The following chart identifies organizations that have responsibility for the major components of the system in Fort Worth:

Component	Method	Responsible Agency
Legal Authority	EMS Ordinance & Interlocal Agreement	Fort Worth City Council
Medical Direction	EMS Ordinance	EPAB/Medical Director
Ambulance Performance Standards & Oversight	EMS Ordinance & Interlocal Agreement	AMAA Board
Financial Oversight & Funding	EMS Ordinance & Interlocal Agreement	AMAA Board
911 Call Taking	Interlocal Agreement	Fort Worth Police Department
EMS Pre-arrival Triage and Instructions	Interlocal Agreement	MedStar Communications
First Responder Dispatch	City Policy	Fort Worth Fire Communications
First Response	EMS Ordinance & Interlocal Agreement	Fort Worth Fire Department
Rescue & Extrication	EMS Ordinance & Interlocal Agreement	Fort Worth Fire Department
Ambulance Dispatch	EMS Ordinance & Interlocal Agreement	MedStar Communications
Ambulance Response	EMS Ordinance & Interlocal Agreement	MedStar
Receiving Facility Interface	EMS Ordinance & Interlocal Agreement	EPAB/Medical Director
Clinical Quality Assurance & Credentialing	EMS Ordinance & Interlocal Agreement	EPAB/Medical Director
Rate Setting	EMS Ordinance & Interlocal Agreement	AMAA Board
Billing & Collections	EMS Ordinance & Interlocal Agreement	MedStar
Subscription Program & Benefits	EMS Ordinance & Interlocal Agreement	MedStar
Medical Supplies Management	EMS Ordinance & Interlocal Agreement	MedStar
Ambulance Fleet Management	EMS Ordinance & Interlocal Agreement	MedStar
Prevention & Early Recognition	EMS Ordinance & Interlocal Agreement	MedStar
Bystander action & Early Access	EMS Ordinance & Interlocal Agreement	Fort Worth Fire, MedStar & EPAB



For the City’s EMS system to function effectively and efficiently, each of the responsible agencies must fulfill its role. The system design is carefully constructed to distribute responsibilities in a manner that takes advantage of local resources and provides public accountability. Because it is the most populous City, Fort Worth maintains a majority of the AMAA Board’s membership. All Board members should be encouraged to proactively and aggressively represent the interests of their constituent member Cities in their participation in AMAA activities.

The complexity of the system is even greater when looking at the entire MedStar service area rather than the City alone. Similar tables can be generated for each of the other fourteen cities that participate in the interlocal agreement that creates AMAA and MedStar.

Uniform EMS Ordinance

All fifteen cities served by MedStar have adopted a uniform EMS ordinance. The ordinance creates the exclusive market area and creates the AMAA to serve it. It lays the foundation for defenses to potential antitrust actions that might arise from the exclusivity. The ordinance also creates the EPAB and establishes Advanced Life Support (ALS) as the minimum level of ambulance service. Cities participating in the system are listed in the following table.

City	Population (2008 USCB)
Blue Mound	2,365
Burleson	35,204
Forest Hill	13,858
Fort Worth	700,423
Haltom City	40,181
Haslet	1,718
Lake Worth	4,810
Lakeside	1,324
River Oaks	6,965
Saginaw	20,295
Sansom Park	4,196
Town of Edgecliff Village	2,560
Westover Hills	725
Westworth Village	3,007
White Settlement	16,301

While Fort Worth certainly is the largest, all of the participating cities are to some degree interdependent. The geographic relationship of the cities, the network of highways and roads and economies of scale afford all of the participating cities, even the largest with economic advantages in the delivery of reliable ambulance services.

The Interlocal Agreement

An interlocal agreement has been established by the member cities to govern the EMS system created by the ordinance. The agreement specifies the number, qualifications, and method of appointment and terms of the Board of Directors of the AMAA. It establishes terms under which members may leave the agreement and other jurisdictions may join. The agreement also establishes requirements for the AMAA to build a prudent net worth or equity and the conditions, restrictions and methods under which that equity may be distributed to the members.

The method used for setting prices and subsidies is also included in the agreement with each member city allowed to select from one or both of two price/subsidy schedules. These schedules allow any member to choose to amend rates charged within its jurisdiction ranging from no fees and full subsidy to full fees and no subsidy. The schedules are constructed to accommodate cities with BLS first responders and ambulance response time requirements of 90% of priority 1 calls served within 9 minutes as well as cities with ALS first responders that may select response times of 90% within 11 minutes with a resulting less expensive price subsidy tradeoff.

A provision of the original agreement that required that the AMAA not directly operate the ambulance service for a period of longer than 18 months was amended in 2006 to allow the authority to continue to operate the system without a contractor.

One provision of the agreement allow a member city to withdraw and recover it's pro rata share of the authority's net worth in cases of chronic failure of the authority to meet the response time standards established for that city. The detailed procedure that must be followed in such cases cannot be completed in less than 21 months from date of notice.

If the City of Fort Worth were to exercise this option, most of the remaining cities would likely be unable to maintain a sophisticated and reliable ambulance services. Because of the geographic and economic advantages of the combined system, it is highly unlikely that Fort Worth would be able to maintain the current level of service without significant recurring investment in the form of much higher subsidies or significantly increased internal costs.

Utility Economics

Certain types of organizations are economically classified as “public utilities.” These typically provide important infrastructure to support the public. Electrical distribution companies, water systems, rapid transit authorities and cable television distribution systems are obvious examples. Generally, a major distinguishing feature of economic public utilities is that more than half of the cost of delivering the service is invested in the infrastructure or network used to deliver that service. In the case of electrical utilities, the marginal cost of producing each kilowatt of power delivered to homes and businesses pales in comparison to the cost of the nuclear, hydroelectric and coal generation plants, distribution grids and maintenance infrastructure required to establish the network before the first light is turned on.

Because they must first establish a network of resources to cover a given service area, and the marginal cost of running the next call is very low, ambulance systems and Fire Departments fit this definition of economic public utilities. As a result, we can apply several principles of utility economics to learn how to economically improve service.

Horizontal Consolidation

Horizontal or geographic consolidation is achieved by expanding the geographic footprint of the utility. Generally, absent difficult barriers to contiguous service, the larger the service area, the more economically efficient the operation can be. Barriers to ambulance and Fire services may include mountain ranges, large bodies of water, poor road access and large extremely rural areas incapable of producing fee for service or tax revenue or to support the utility. While it is fairly obvious that smaller jurisdictions benefit from tagging along on the edges of more populated Fire or ambulance service area, it is less obvious, but nevertheless true that larger

jurisdictions enjoy significant economies by spreading the fixed costs of administration, management, finance, debt service and excess capacity required to make response times over the less demanding periphery of the service area. The marginal cost of the expanded service areas generally is less than the increase in either fees or tax revenue. Both parties gain economic advantage even though, seen from either party's perspective, the arrangement seems to advantage the other jurisdiction.

Generally speaking, as a service area for Fire or EMS services is geographically consolidated, the opportunity for efficiency is increased.

Vertical Consolidation

Vertical consolidation within the market is the provision of more lines of service using the same infrastructure and network. One example of this is the trend for cable television companies to leverage their distribution networks by adding more channels, pay-per-view movies, internet and telephone services to their service bundles. Fire departments have embraced the "all hazards" concept to leverage the fire suppression service network to provide hazardous materials mitigation, technical rescue, EMS first response, special events planning, bomb disposal, prevention and public education and homeland security roles in order to deliver more value to the community. Similarly, ambulance services that combine emergency, interfacility, critical care and other alternative services that use part or all of the network established to meet 911 demand, realize increased efficiency and economies of scale.

In many cities, a government agency is primarily responsible for ambulance response to 911 calls. For philosophic reasons or as a result of tradition or prejudice, the city Fire or ambulance department or emergency contractor does not respond to interfacility ambulance calls. A separate network of private ambulances, often including several competing providers, serves that segment of the market resulting in two or more overlapping ambulance response networks. In most markets, to achieve equal levels of response time reliability, a two provider tiered system requires approximately 30% more combined ambulance unit hours than a

single provider full service system. Improved productivity and economies of scale can significantly reduce the total cost of the entire ambulance system.

The Public Utility Model

The Public Utility Model (PUM) EMS system design was developed to take advantage of the principles of economic public utilities to improve the efficiency and thereby the cost and operational performance of EMS systems. In its pure form, the PUM consolidates a large geographic service area, often through interlocal agreements, into an exclusive market. A governmentally appointed board oversees the system and as the licensed provider owns the trade name, key assets and patient receivables. Originally, all of the PUM's also used a competitively selected operations contractor to manage the productivity and the workforce. The design intentionally takes advantage of private innovation while providing continuity of service and exceptional security for the community.

A number of variants of the PUM model have been developed as well. These include the Failsafe Franchise Model and consortia of hospitals and PUM's that directly operate the service without the use of an operations contractor. The consolidation of national and regional private ambulance companies has reduced the competitiveness of these providers in managing large and complex systems including PUM's. This has directly contributed to a growing trend for these systems to forgo procurement of a contractor and to instead hire talented operational managers and directly run the system. REMSA in Reno Nevada started this trend in the early 90's when nobody submitted a proposal during a procurement cycle. MAST in Kansas City followed suit after the financial failure of its employee-owned contractor. RAA in Richmond changed its model after firing its contractor for breach of contract and MedStar modified its structure following Rural/Metro's exit from the Texas market.

Generally, the PUMS that have eliminated operations contractors have been very successful. Those that have succeeded have done so by hiring senior level operations managers with experience in running complex, high performance EMS

systems. The skill set needed to efficiently manage the ambulance operation is quite different from that required to regulate a contractor.

MedStar's Transition from Regulator to Provider

From its beginning as a Failsafe Franchise Model and through its transition to a PUM using a succession of operations contractors, AMAA regulated MedStar and achieved its goals by overseeing a contractor that actually did the field work. With Rural/Metro's departure, MedStar's role changed significantly and its management team was not well equipped to deal with the new role. A long period of transition followed with lapses in response time reliability and a number of other problems as the management team attempted to learn how to manage one of the most complex EMS systems in the country through on the job experience. The use of many supervisors and managers that had been indoctrinated to the methods of the failed previous contractor did not lighten the load during the transition.

The management team, with forbearance from the member cities and assistance from other agencies, including EPAB and the Fort Worth Fire Department, made slow but steady progress in learning to improve service and efficiency. That progress accelerated significantly when, in response to a recommendation in the consultant report produced by Fitch and Associates, MedStar hired an Associate Director with substantial high performance EMS experience. Improvements in staffing, deployment, training and documentation have allowed MedStar to subsequently achieve national accreditation from the Commission on Accreditation of Ambulance Services (CAAS). New services such as the Community Paramedic Program are beginning provide new patient centered healthcare service while reducing costs.

MedStar's difficulties during this transition were predictable. High performance EMS systems often undergo significant stress during transitions. Usually, even with operational expertise, that stress results in financial losses for the operations contractor during the early years of a new contract. In this case, the operational and financial difficulties directly affected the AMAA as the new direct provider.

MedStar Performance

The consultants reviewed documentation of MedStar's performance with particular attention to changes in that performance over the past two years. MedStar cooperated by promptly providing reports, supporting documentation and raw data. Direct observation of MedStar's Communications Center, Field operations and interviews with member cities, management and employees were used to corroborate the reports and data.

Review of Fitch Report

The City specifically asked that The Polaris Group review the Consultant Report entitled: *MedStar EMS System Analysis* which was prepared in 2008 by Fitch and Associates and note concurrence or disagreement concerning the findings and recommendations that it contains.

In general the consultants find that the Fitch study was thoroughly conducted. We concur with most of the recommendations within the report with a few notable exceptions.

Price Subsidy & Business Management Recommendations

These sections of the recommendations found on pages 74 and 77 are unsupportable and appear to result from a misunderstanding of the relationship of price and subsidy in the PUM. Fitch's recommendations included the following:

- *Price Subsidy Options must be changed...*
- *Funding needs to be increased to achieve and maintain performance, and*
- *A minimum subsidy per capita should be established*

No rationale is provided for this recommendation other than a vague reference to "*significant changes to federal and state healthcare reimbursement.*" While it is certainly true that there have been many changes in reimbursement programs since MedStar was founded, we believe that they increase the importance of the Price/Subsidy tradeoff mechanism found in the interlocal agreement and ordinance. These recommendations could only have been based on conclusions that are either personal prejudice for tax subsidy or a naïve misunderstanding of EMS finance.

As the MedStar system is currently designed, there is a strong focus on controlling the cost of the system. Costs may be evaluated using several metrics. The most common are:

- Cost per transport
- Cost per unit hour, and
- Cost per capita

When calculating costs, all expenses relating to the regulation, operation and oversight of the system are included. Cost calculations are independent of revenues from fees or tax subsidies. Once the true cost of the service is understood, the revenue required to pay for the system cost can be calculated. Using a sophisticated model that accommodates the payer mix, details of the billable services and rates of reimbursement from different payers, it is then possible to calculate the fee structure that is required to raise sufficient cash to cover the cost of the system.

The failure of federal and state reimbursement programs such as Medicare and Medicaid to pay the full cost of the services that they cover results in a massive shift of costs to other payers. Additional cost shifting is caused by the uninsured and underinsured. As a result, other payers, usually private insurance companies and managed care organizations pay more for the service. It is, in effect, a hidden healthcare tax to cover the costs of state and federal programs and the uninsured. The following example illustrates the effect of cost shifting.

An ambulance provider needs to raise an additional \$10 per transport to cover its costs in a market with 50% Medicare and Medicaid and a marginal collection rate of 20% on all other payers. The provider already charges more than the Medicare and Medicaid “Allowed” charges. Because rate increases will not affect payments from Medicare and Medicaid, the first step is to divide the cash per call that is required by the percentage that is not covered by those government programs. In this case, the affect of those programs alone results in the need to double the cash requirement.

$$\text{\$10}/50\% = \text{\$20}$$

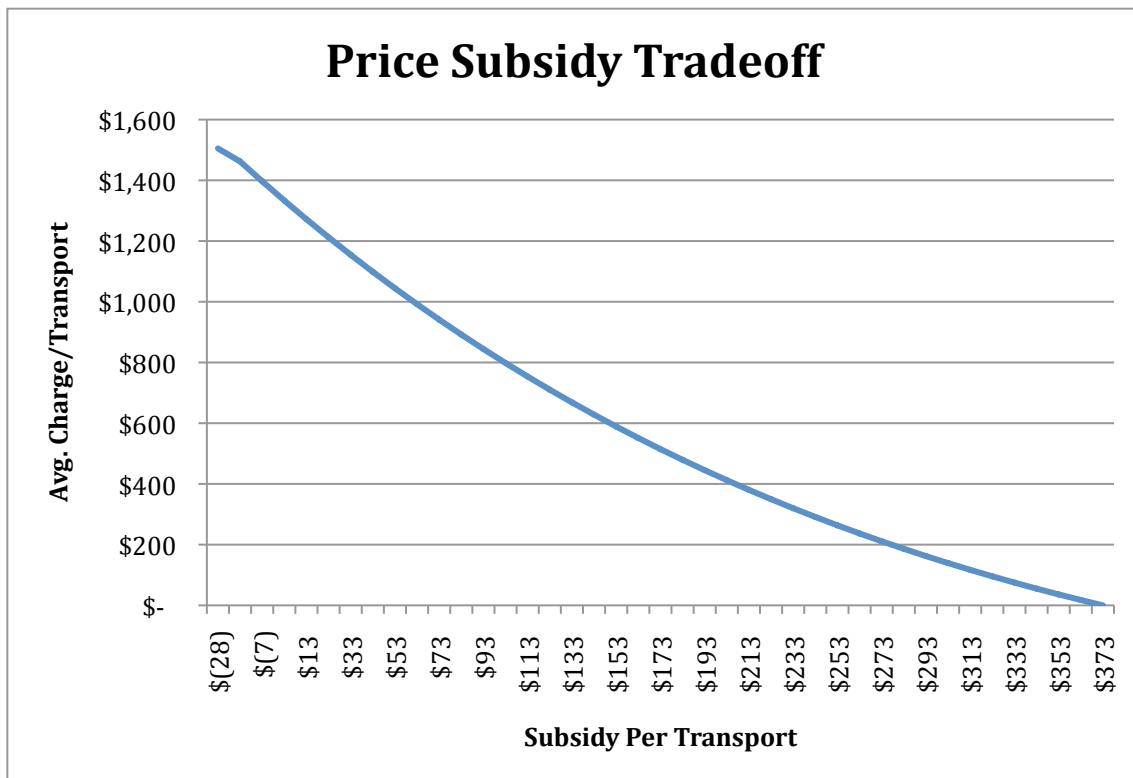
The next step is to divide that product by the marginal collection rate of 20%.

$$\$20/20\%=\$100$$

Thus, in this simplified hypothetical example the ambulance provider must increase his rates by \$100 to collect an additional \$10 per transport. As rates increase, the marginal collection rate declines, exaggerating the cost shift.

A more sophisticated version of this calculation is used to produce the annual Cost Subsidy Matrix that is reported to each city. Each city may choose levels of subsidy at any point in the matrix, including zero.

The following chart provides an approximation of the current Price/Subsidy tradeoff in the MedStar system. This chart assumes that as the fees charged for the service decline, the collection rate increases.



Any member city can choose a combination of price and subsidy at any point on the blue line. The corresponding location on the red line indicates the subsidy required per transport to produce the net revenue of \$373.39 required to operate the system. The Price/Subsidy curve will change each year due to changes in expenses and

collection rates. Please note that the chart subsidy series begins with a negative subsidy per transport because MedStar collected a little more than \$2 million in revenue exceeding expenses in FYE 2009.

The Role of Subsidy in EMS

Subsidies are common in EMS systems across the country. They are most common in publicly run systems and are seldom recognized as subsidies rather than just normal expenses. In public systems, ambulance rate setting is more politically than financially oriented. Often the cash collected from patient fees is deposited directly into the general fund and no comparison of revenues to cost is ever undertaken. Once tax subsidies are begun in a system, regulators are often fearful of public backlash if they are removed. EMS tax subsidies often result more from tradition and misunderstanding than actual need.

Example

A case in point was Grady EMS in Atlanta. Grady EMS, which is a division of a large public hospital, has been the 911 provider for the City of Atlanta for over 115 years. For all of that time until 2008, Grady has been heavily subsidized. Grady made the transition to become a high performance provider in the late 1990's substantially lowering costs while improving response times under a contract with Fulton County that provided \$7 million in annual tax subsidy. The subsidy provided one third of Grady EMS' \$21million in revenues. During a dispute between the county and the cities within it, the county cancelled the contract and cut off the subsidy on fairly short notice. Grady Healthcare management panicked, as did the City of Atlanta the media and the employees. Dire predictions, based on the notion that Grady could not function without tax subsidies, foresaw hour-long response times and dying patients unable to get service.

Instead, based on recommendations from The Polaris Group, Grady raised its rates substantially. The base rate for and ALS call jumped from \$662 to \$1,627.50 and management braced for the public outcry that they expected. Instead, they realized an additional \$7 million in payments and not one complaint from the public. They transitioned to zero subsidy for the first time in 115 years because they were forced to do it.

Effects of Subsidy

Subsidies are required to support responsible levels of service in some EMS systems. Generally, rural systems that cover large geographic areas and are sparsely populated lack sufficient potential fee-for-service revenue to support desired levels of coverage and response time reliability. They have no real opportunity to improve productivity or collections per call. In these systems, the community must pay for its desired level of service. Similar conditions exist in communities that are relatively small and isolated such as islands and mountain communities. Finally, subsidies may be required in communities that, having maximized their efficiency cannot raise sufficient revenue due to extensive poverty or a greatly skewed payer mix. None of these characteristics describe the City of Fort Worth or MedStar's service area.

For more than twenty years, the City of Fort Worth and several other member cities have paid subsidies to MedStar while Arlington has received substantially similar high levels of EMS service without paying subsidy. Arlington's ability to achieve similar service levels at zero subsidy has more to do with the city's philosophy than the differences in EMS system design. Arlington simply chooses not to use tax money to support its ambulance provider. Tax money invested in EMS is invested in the city's Fire Department ALS first response system rather than in the reduction of costs to insurance companies.

If subsidies are not required, then what is their effect when they are provided to an EMS system? In most systems, subsidies represent easy funding that often enables providers and their management to work less hard and efficiently. Generally, inappropriate subsidies do not improve response times, employee wages, service to customers or clinical outcomes. In most systems, the actual role of local tax subsidies is to subsidize insurance companies that receive lower bills but have already collected premiums to cover the cost of ambulance services. It also uses local tax money to subsidize ambulance services provided to non-residents of the city when they use ambulance local services.

The Price/Subsidy matrix mandated by the ordinance and interlocal agreement raises the discussion of subsidies from one of being able to pay for adequate service to a simple financing option. Any member city may choose, for political or other reasons to provide subsidies but the system does not currently require them.

Price Sensitivity & The StarSaver Membership Program

Ambulance rates that fully cover the cost of providing clinically advanced, reliable ambulance services are sometimes politically controversial due to concerns about higher out of pocket costs for patients. In reality, higher user fees directly affect relatively few patients. Approximately half of patients are insured through government programs such as Medicare and Medicaid. Due to federal and state regulations establishing reimbursement for these calls, these patients are not affected at all by increased ambulance fees.

Many patients are covered by private insurance and managed care plans. In these cases, the insurer covers usually most of any increased costs. While the benefits vary from plan to plan, rate increases generally only marginally affect the co-payment and deductible amounts required under each plan. Another significant group patients simply don't pay the bill at all. No matter how large or how small the bill, they are not affected by rate increases because they simply don't pay.

Thus a small population of financially responsible underinsured patients and to a lesser degree adequately insured patients are affected by rate increases. MedStar has established the StarSaver Membership Program to assist these patients and to lessen the impact of MediCare coinsurance and deductible payments for Medicare beneficiaries.

The StarSaver program is a membership program that prepays out of pocket expenses for medically necessary ambulance usage at an actuarially determined annual rate. Because not every member uses the service every year, the cost of the plan is currently only \$55.00 per household. Membership relieves the patient of responsibility for out of pocket expenses for eligible ambulance services, thereby eliminating the impact of rate increases by spreading them over a large risk pool of

members. MedStar projects approximately \$415,000 in membership income during FYE 2010.

Finding and Recommendation

The Polaris Group finds that the Fitch recommendation to institutionalize tax subsidies of MedStar through schemes like a *“minimum subsidy per capita,”* is nonsense. It would waste taxpayer money in the subsidy of insurance companies and nonresidents without achieving any quantifiable improvements in the EMS system. We further recommend that the City seriously consider eliminating the current levels of tax subsidy committed to MedStar and let the system charge the full-unsubsidized ambulance rates within the City. The City could better use the money currently spent on MedStar subsidies. One possible use would be to enhance EMS services within the City by diverting the savings in subsidies to support improvements in the first responder program within the Fort Worth Fire Department as described in another section of this report.

System Status Management Recommendations

The recommendations found in this section on pages 74 and 75 are based on erroneous assumptions and an unusual, unsophisticated method of analyzing service demand. The recommendation asserts the conclusion that *“Twelve posts are required to supply coverage of 90% of the total demand. During the hours of 1000 and 1500 hours, the primary 12 posts must be continually covered in order to meet response time compliance.”* We find no logical support for this conclusion. It is simply an assertion of opinion based on the preconceived notions of one particular deployment manager. In essence the deployment plan methodology provided in the report appears to use the assumption that in addition to the number of ambulances required to handle all active calls during the busiest time of the day, twelve more ambulances must be idle at post locations for five hours each day to meet 90% compliance.

This assumption has the potential to seriously overstaff the deployment plan during peak demand periods. While prudent planning will include some excess capacity in any deployment plan to account for surge capacity and call volume variability, planning to meet the demand and leaving 12 units idle at post is simplistic and

wasteful. The overall cost of 12 extra units deployed for 5 hours each day ranges from \$1.7 million to \$2.9 million if calculated from marginal or full unit hour cost respectively. We have seen this method used in other reports by the same consultant, notably in Arlington and have subsequently seen the residual unit requirement disproved in actual operation of the system. Other than the particular consultant that prepared the recommendation, we know of no other sophisticated EMS system in the US that uses the same methodology or assumptions.

Response Time Zones

The Fitch report recommends that MedStar *“negotiate with the 15 member Cities for a reduced number of zones.”* And, *“In this size service area, three or less, zones that are volumetrically balanced would allow for a better management of peak volume by maximizing deployment during the most challenging times.”* We find no logical support for these recommendations. Interestingly, the same consultant made identical recommendations to Arlington in a previous study. No rationale for using three zones is provided in either report.

The practical effect of dividing the service area into 3 response zones instead of 15 cities would be to lower the bar for ambulance response times and remove accountability to each of the member cities. The entire purpose of having response zones is to assure that one member city does not receive chronically poor service while the service area as a whole receives 90% compliance. Reducing the number of compliance zones to three would make the job easier for MedStar but seriously risk inequality of service and obscure the level of service provided to each city.

Two alternative methods of arranging reporting zones are commonly used but neither appears to have been considered in the report. MedStar is currently required to meet 90% compliance of each response priority in each member city. It is more common to require 90% compliance for the collective response area and 85% within each zone or city. This practice allows for slight inequality of service to exist in recognition of the effort and expense required to meet identical standards in Fort Worth and some of the smaller cities.

Another common method of addressing the cost and difficulty of meeting the needs of large and small volume jurisdictions within a single system is to have tiered response time requirements. Some areas might require compliance with a 9-minute standard while others might have an 11-minute standard for the same priority. This method is usually employed to serve a combination of urban and rural zones within the same service area.

Overload Calculation

As part of the recommendations, the Fitch report appears to have recommended the elimination of the overload mechanism that was part of the operations contract with Rural/Metro. The analysis of the overload provisions in the report is simplistic and inaccurate.

The overload mechanism was never intended as a crutch or excuse for poor performance. It was designed as a tool to prevent finding the contractor in breach of the contract due to statistically improbable surges in call volume that the contractor would be unlikely to predict. Since there no longer is an operations contractor, the point is moot.

MedStar management did continue to report response time compliance after adjusting for overload for a period of time. They have discontinued this practice at the request of EPAB. It is important to note that progress in achieving compliance as reported today is better than it appears when compared to previous years because of the elimination of the overload calculation in preparing the compliance statistics. Response time reliability reported today as 90% is comparable to 94 to 95% using the overload calculation in previous years.

Finding and Recommendation

MedStar should challenge the deployment assumptions and methodology of the Fitch report. The most successful providers continually challenge even their basic assumptions about how deployment processes are managed. Failure to do so institutionalizes inefficiencies by assuming they cannot be overcome.

Mathematical Schedules

The method used to build schedules in the Fitch report begins by using the same flawed deployment methods mentioned above to determine demand and then uses a computerized model to “optimize” the schedules. Unfortunately the model appears to contain an arbitrary “buffer” of 5% and calculates a 9% to 12% factor for “*schedule inefficiency*.” The range of inefficiency for these assumptions alone is 14% to 17%. Translated into unit hours and compared to the current schedule that means 30,350 to 36,858 unit hours. At the FYE 09 MedStar cost of 130.65/UH the uncertainty represented by these arbitrary scheduling assumptions and inefficiencies is somewhere between \$3.9 and \$4.8 million dollars.

We do not wish to leave the impression that that amount of money is spent inappropriately or could be recovered. On the contrary, we think that the current actual staffing level is pretty close to correct based on recent improvements in operational and economic performance. We simply wish to illustrate the magnitude of the range of error possible from the model used by Fitch.

As a result, the process that appears to be scientific and calculated actually stacks arbitrary assumptions upon errors and buffers upon inefficiencies. As each arbitrary feature compounds, the deployment and scheduling analysis and apparently exacting mathematical calculation of the schedule loses clarity and resolution. It looks impressive, but it doesn’t work very well.

Finding and Recommendation

Again we encourage MedStar to challenge the assumptions and the results of the model. Using a flawed product or method consistently will achieve consistently flawed results.

The significant scheduling problem that MedStar had was that it did not have enough qualified people to staff the planned shifts. Management has remedied this problem. With full staffing of the schedule, MedStar should continually review its deployment plan by searching for geotemporal patterns in late responses and systematically eliminating them by adjusting coverage.

Strategic Human Resources

This section of the recommendations contains the following: “Staffing levels must be increased to greater than 5% of full staffing.” We cannot decode what this recommendation even means. We suspect that it is in reference to the “5% Cushion” mentioned in the body of the report. Taken literally it would indicate that MedStar was failing to staff 95% of shifts. That was not and is not true, so this recommendation must be either a typographical error or poorly worded conclusion.

Summary of Fitch Report

The Fitch report correctly identified and addressed a large number of issues that contributed to MedStar’s flagging performance. The single best recommendation in the report was to hire an Associate Director with appropriate qualifications. MedStar implemented this recommendation and a substantial portion of the progress the organization has made is the direct result of this change.

The Fitch recommendations related to subsidy, system status management and scheduling were, in our opinion flawed. They had the potential to inflate costs and distract management from important process improvement activities. The inappropriate subsidy recommendations appear to have been at the root of MedStar’s request to the City of Fort Worth for additional tax subsidy.

MedStar has implemented many of the important recommendations in the report. They have made sufficient progress that the details of many of those recommendations are now dated and the organization has, in many respects moved beyond the vision of the report.

Ordinance and Interlocal Agreement Compliance

The City of Fort Worth specifically asked The Polaris Group to provide an opinion that answers the question: “Is MedStar in compliance with the uniform ordinance and interlocal agreement?”

It is our opinion that the MedStar as the brand name of the Area Metropolitan Ambulance Authority is technically in compliance with the EMS ordinance and its amendments. We also are of the opinion that AMAA/MedStar is technically in

compliance with the requirements made of the organization by the interlocal agreement and amendments between the member cities.

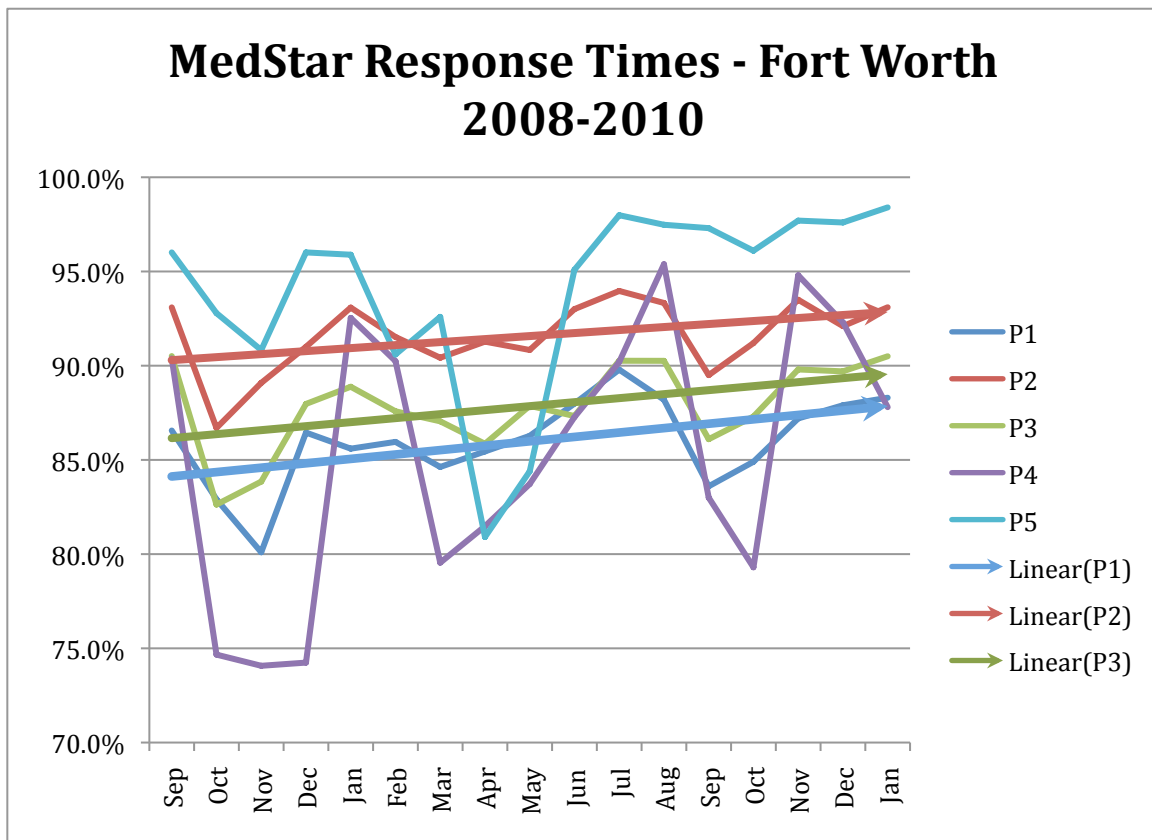
In forming this opinion, the consultants recognize that for a long period of time MedStar and previously its contractor did not meet the response time requirements that the AMAA board had established for the City of Fort Worth. This could have been characterized as a *repeated and chronic failure of the Authority* as referenced in paragraph 11(c) of the agreement. If the City of Fort Worth had served written notice of its intention to withdraw from the agreement and the Authority had subsequently failed to correct the deficiencies, the City would have been within its rights to withdraw using the agreed procedures. The City did not serve such a notice, so AMAA/MedStar is in compliance with its responsibilities under the agreement. Moreover, if the elimination of the response time exemptions for overload are considered, MedStar is currently meeting a significantly higher performance standard than that originally established for the system.

Operational Performance

During the past year, MedStar has made substantial progress in fixing the deficiencies that caused its past poor performance. The most visible measure of ambulance provider performance is response time reliability. There is much debate within the industry about the clinical value of short response intervals. Some studies seem to indicate that rapid response times are not very important to patient survival while other studies indicate that they may be very important for a small number of patients. No matter what the clinical evidence ultimately shows, response time reliability is likely to remain a primary measure of system performance the public generally believes that during an emergency faster is better. While the clinical value of rapid responses may be in dispute, the customer satisfaction value is not.

Patients and the public generally do not have the training or experience to judge the competence of an ambulance provider in performing most of the tasks required to deliver good service. However, nearly all of the public is qualified to understand the length of the response. Perceived response time reliability problems and system funding are the primary drivers of change in EMS systems.

MedStar currently uses top of the line technology and industry best practices to achieve response time performance that is superior to that produced by most providers. MedStar’s management worked through a very difficult transition from system regulator to system operator during the past five years. Progress in producing the response time reliability that is required by the AMAA board has improved significantly during the past two years. MedStar is currently compliant with response time requirements for Priorities 2 through 5 and has made steady progress toward compliance with Priority 1 in the City of Fort Worth. The following chart illustrates progress in response time improvement from September 2008 through January 2010.



The dramatic swings in Priority 4 and 5 are primarily a function of low call volume in both priorities with only about 5% of calls fitting these categories. With relatively few calls in each priority, each late call represents a larger percentage of the total number of calls. This makes it more difficult to consistently deliver targeted performance and for the system to recover from the occasional late response.

Response time reliability continues to trend positively for emergency calls in Fort Worth. The performance represented on this chart does not use the overload calculation that had been in use for most of the past decade. If MedStar had reported its performance during this period using the overload method, all priorities would substantially exceed the requirements. Since the AMAA Board established the 90% reliability requirement at a time when the overload method was routinely used, MedStar is currently meeting and exceeding the original requirements and is largely in compliance with the higher standard established by eliminating the overload calculation.

Mutual Aid

During stakeholder interviews the consultants received commentary expressing concerns about ambulance mutual aid between MedStar and other providers. Some stakeholders felt that MedStar had relied too heavily on other providers to meet its response time requirements on the edges of its response area. Others expressed concerns that MedStar receives more mutual aid than it gives and that some of the other Fire-based providers felt that their resources were being used to effectively subsidize MedStar. The consultants have encountered similar concerns in Arlington with certain Fire-based responders not wishing to use their resources to support the activities of the private contractor.

Several mechanisms exist to overcome these concerns. One common method is to tally mutual aid given and received annually and pays a fair value for excess ambulance mutual aid received. This would create a disincentive for any provider to replace its own resources with mutual aid while encouraging all agencies to provide aid when it is in the interest of the patient and the community. With a number of different types of providers in the metroplex, a regional approach to this issue should be attempted. The Cities of Fort Worth and Arlington are positioned to lead such an effort.

Other Operational Performance

MedStar has employed a number of industry best practices and has initiated its own innovations to improve its performance and efficiency. Processes such as pre-alerting crews to calls while still gathering information and highly efficient shift

start and stop procedures are models for the industry. Supplies, equipment and maintenance practices are state of the art.

The Community Health Paramedic Program, which uses an advanced practice paramedic to assist “frequent flyer” patients to access healthcare resources is a novel and important service that steers patients to the right service without having to activate the 911 system. Expansion of this program to assist homeless shelters and other concentrations of medically fragile people has great potential to deliver more appropriate services to the public while reducing long term costs and preserving emergency resources for real emergencies.

Finding and Recommendation

MedStar has undergone a significant transition from system regulator to operational provider of ambulance services. Many of the performance failures during the past few years are attributable to the learning curve associated with this transition. Today, MedStar is largely compliant with the operational performance standards set by the AMAA Board. Due to the elimination of the overload calculation, MedStar’s response time reliability in Fort Worth is better than it has been at any time in the past two decades. Statistically, the response time performance continues to improve with time as MedStar comes into compliance with the higher standard. The addition of a highly skilled Associate Director of Operations and correction of staffing deficiencies have been the primary sources of this improvement.

MedStar should continue to refine and optimize its response and deployment plans to further improve its operational performance. Additionally, thoughtful expansion of the Community Health Paramedic Program has potential to preserve operational resources, reduce needless responses and improve access to healthcare resources for an underserved portion of the community.

Clinical Performance

The Polaris Group reviewed EMS system documentation provided by MedStar and EPAB. Dr. Ossmann conducted interviews with Drs. Beeson and Griswell. David Shrader observed system operations during rideouts with the Fort Worth Fire Department and MedStar.

System Protocols

The EMS system protocols are well documented, complete and consistent with the current standards of practice in high performance EMS systems. EPAB has established a solid program for credentialing EMT's and Paramedics to assure that the clinical capabilities of the system are appropriate.

Paramedic Performance

During rideouts with the Fort Worth Fire Department, the consultant noticed behavior of several MedStar paramedics that did not meet typical expectations for a clinically advanced EMS service. Some ambulance crews seemed passive or even disinterested on scene. In one case, the MedStar paramedic stood across the room from a patient that demonstrated potentially dangerous symptoms while the BLS Fort Worth Fire engine company completed an assessment of the patient. Without even having touched the patient or conducted any assessment of his own, the paramedic's first words on scene were: "So do you want to go to the hospital?" On another call, another MedStar paramedic approached a patient carrying a computer but no clinical equipment. Some paramedics seemed aloof and not very involved in the evaluation and care of the patient while we were on scene. At no time did we witness that this behavior caused any injury to any patient.

These are anecdotal incidents and it is difficult to tease a systemic problem out of a few observed actions. In discussions with Fort Worth firefighters, MedStar paramedics and management and Dr. Beeson, it became clear that these incidents do indeed represent a recognized problem within the system. The behavior observed and described in interviews is often explained as "paramedic burnout." This behavior is often blamed on high productivity, fatigue, management and frequent encounters with patients with minor complaints. If those were the causes of "paramedic burnout," then a lot more paramedics would suffer from it. But in very many systems, that kind of behavior is not often found.

We believe that most employees will rise to the expectations of the organization and its management. The most likely reason that we found some sullen, disinterested paramedics is that they have been tolerated for a long time by the system. At some

point in their career or job at MedStar, these people learned that not very good was a tolerated level of job performance. They sensed low expectations and met them.

Both the MedStar Associate Director and Dr. Beeson confirmed that they have observed the same disappointing behavior in the field and have been trying to change it. Subsequent to our discussions, MedStar and EPAB have taken several significant steps designed to resolve this problem and communicate higher expectations to the field personnel. Those actions have included changes in management personnel, a new “back to basics” clinical program and initiation of a program known as “Grand Rounds.” Both Matt Zavadsky and Dr. Beeson continue to work shifts on ambulances and to respond to calls to augment Field Supervisors and monitor the performance of the crews.

Finding some caregivers who don’t care was the single most disturbing finding in the investigation phase of this study. We believe that EPAB and MedStar management are taking significant and appropriate steps to fix this problem. We also encountered many more MedStar employees who were enthusiastic and diligent in their work, indicating that this problem is only demonstrated in a small number of the staff.

Finding and Recommendation

At least some paramedics working within MedStar demonstrated an unacceptable level of interest and concern in their patient care responsibilities. MedStar should identify and remediate those individuals or replace them.

Financial Performance

The following review of financial performance was prepared by Consultant Joan Jordan, CPA. She is also the CFO at MAST in Kansas City. Because of her familiarity with that system and the similarity of the system designs and operation, she was asked to draw comparisons between these two high performance PUM’s.

MedStar provided The Polaris Group with a mountain of virtual paper that I reviewed, focusing on the following topics:

- Financial Statement Presentation

- Transports, Billings and Collections



- Other revenues - subsidy, standby events
- Expenses - budget to actual
- Accounts Receivable Aging

These areas are reviewed in detail in this report.

Financial Statement Presentation

MedStar presents financial statement to their Board of Directors in a format, which does not follow generally accepted accounting principles (GAAP), which skews results and may affect decision making by the Board during the year. Major differences in presentation include:

- Use of reserves recorded as revenue
- Capital outlay recorded as expense, rather than a Balance Sheet Item
- Depreciation not recorded

The differences between Board financials and audited statements (net income) for the last 3 years are:

Year	Board Stmt	Audited Stmt
2006	\$743,926	\$880,052
2007	\$1,768,913	\$1,031,903
2008	\$146,972	-\$191,027
2009	\$2,565,186	\$2,125,053

Finding and Recommendation

Board statements should follow GAAP which, for MedStar, are principles promulgated by Governmental Accounting Standards Board (GASB) as presented in their audited financial statements.

Transports, Billings and Collections

The following chart depicts the transports, billings and collections by payer type for 2008-2009:



Payer	Transports	% Transport	Billed	Collected	Coll as % of Billing
Medicare	25,498	32.00%	\$30,450,807	\$9,489,616	31.16%
Medicaid	9,897	12.00%	\$12,231,377	\$2,997,299	24.15%
Insurance	10,351	13.00%	\$12,006,860	\$10,852,045	90.00%
Facilities	2,026	2.00%	\$1,319,471	\$1,136,838	86.62%
Self Pay	31,536	39.00%	\$32,943,132	\$1,457,083	4.40%
Total	99,398	100%	\$88,951,647	\$25,912,882	29.13%

In 2008, average billed per transport was \$1,121 and average collection per transport was \$260.70. These figures represent collections in 08-09 on 08-09 billings; thus collections for some of the later months may not be complete. However, this appears to be reasonable rate given the gross charge and the Medicare/Medicaid allowables. MAST's collection per transport during a similar period was \$248.17.

MedStar appears to do a better than average job of collecting from private insurance companies and has an 18.8% first submission denial rate for Medicare. This year, MedStar engaged the services of Werfel & Associates, a New York law firm specializing in Medicare billing issues, to review claims and present recommendations. I reviewed the report and found no extraordinary or worrisome items.

Transport and billing trends are:

Year	Transports	% incr	Fees for Svc	% incr	Coll	% incr
9/30/06	61,257		\$62,557,558		\$18,413,772	
9/30/07	73,497	20%	\$74,341,637	19%	\$24,509,309	33%
9/30/08	78,439	7%	\$88,219,627	19%	\$25,049,015	2%
9/30/09	82,126	5%	\$90,092,755	2%	\$25,765,156	3%



Trends for transports, fees and collections appear reasonable given the industry and given MedStar's rate structure.

Non-Emergency Transports. For FY 2009, MedStar billed 4,740 non-emergency transports, which is 7% of total transports (67,648). During the same time period, MAST billed 14,489 non-emergency transports, or 22% of total transports. Collection rate on non-emergency is typically higher. On a percentage basis, the following comparison can be made:

Procedure Code	MedStar	MAST
BLS Emerg	29%	20%
BLS Non Emerg	0	9%
ALS 2	2%	1%
ALS 1 Emerg	66%	60%
ALS 1 Non Emerg	2%	10%
SCT	1%	0
	100%	100%

Other Revenues - Subsidy, Standby Events

Subsidy: MedStar collects subsidy based on municipality annual election to trade off gross billing to citizens with subsidy paid by municipality. Generally, subsidy received has been sufficient to meet cash flow demand, and revenues collected have equaled expected revenues.

Standby events: MedStar performs standby events for school football games, NASCAR events, rodeos, and other public relations events. The charge is generally \$90/hour for an ALS ambulance; discounts are available for non-profit organizations. Standby revenues, as recorded in the financial statements, are as follows:



Year	# events	F/S Revenue
9/30/06	211	\$18,224
9/30/07	338	\$22,024
9/30/08	283	\$26,543
9/30/09	372	\$25,509

Per the standby event log provided, actual billings for standby events for 9/30/09 were approximately \$80,000, or \$215 per event (this includes all PR events which are normally done free of charge). Thus, the financial statements do not correctly report standby revenue. (Per Joyce Brown, some revenue was recorded as fee for service, incorrectly. She is making the corrections.)

MAST charges approximately \$100/hour for an ALS unit, and charges a minimum of 2-4 hour showup pay. Kansas City, MO has an ordinance that requires EMS coverage for any event with large attendance. For calendar year 2009, MAST billed a total of 371 events for \$241,380 charges.

Finding and Recommendations

MedStar should look closely at standby policies, hourly rates, and contracts for potential revenue increases. The City should consider modifications to the interlocal agreement and EMS ordinance designed to grant MedStar exclusivity for ambulance standbys.

Expenses

Trended operating expenses are as follows (excludes capital outlay)

Year	Op Expense	Increase %
2007	\$19,515,797	
2008	\$24,861,676	27%
2009	\$26,829,412	8%



The increase in 2008 of 27% does not coincide with a corresponding increase in transports. It is primarily due to an increase in field salaries of \$3.24million.

The following summary financial statement was taken from the Board presentation for 9/30/09:

Description	Budget	Actual	% of revenue
Net Revenue	\$26,326,377	\$31,861,672	100%
Expenses:			
Administrative	\$4,253,779	\$5,606,762	18%
IT	\$331,562	\$609,229	2%
Fleet	\$2,237,568	\$2,045,102	6%
Operations	\$11,398,191	\$12,811,544	40%
Operations G&A	\$811,268	\$722,741	2%
Human Resources	\$650,846	\$694,401	2%
Medical Records	\$156,510	\$164,775	1%
Communications	\$1,598,821	\$2,204,723	7%
Clinical	\$657,862	\$643,768	2%
Health/Safety	\$124,263	\$101,565	1%
Supply	\$3,024,588	\$3,495,485	11%
Deployment	\$211,365	\$196,476	1%
Total Expenses	\$25,456,623	\$29,296,485	93%
Net Profit/Loss	\$869,754	\$2,565,186	7%

The budget overages included above are primarily related to capital expenditures -- ambulances and computer upgrades were purchased over and above budgeted amounts. Revenue includes \$1,084,302 from fund balance, as well as additional subsidy collected from City of Fort Worth.

For comparative purposes only, MAST's expenses are the following % of gross revenue:

Description	% of Revenue
Administration	18%
Operations	47%
Communications	6%
IT	2%
Fleet	11%
Clinical	3%
Net Profit	13%

Of particular interest is the supply cost. For FY2009, MedStar medical/clinical supplies cost totaled \$1,580,693 or \$19.25 per transport. MAST clinical supplies totaled \$554,134 or \$8.80 per transport. MedStar has made the decision to stock numerous very expensive supplies and pharmaceuticals not stocked by MAST, including:

- Iv infusion pumps - related supplies \$27 per use
- EZ IO kit w/drill - related needles \$100 each
- Smart Capnoline O2 - uses nasal cannulas at \$390 each.

Drugs and medical supplies are purchased from Recept Pharmacy at what could be full retail. Given the volume, MedStar should investigate the use of a "just in time" ordering program from a local or regional supplier which would be less expensive and more efficient.

Accounts Receivable Aging

As of 12/31/09, MedStar shows \$27,958,7323 in their Accounts Receivable (net of accounts turned to collection agency). Total aging is as follows:



Payer	0-30	31-60	61-90	91-120	Over 120	Total
Medicare	\$1,229,161	\$528,326	\$278,472	\$73,300	\$354,009	\$2,463,268
Medicaid	\$270,930	\$98,263	\$64,537	\$35,560	\$770,681	\$1,239,971
Insurance	\$1,805,889	\$773,521	\$214,539	\$102,420	\$749,201	\$3,645,570
Facility	\$150,312	\$66,259	\$39,569	\$30,737	\$368,686	\$653,563
Self Pay	\$3,590,845	\$3,075,520	\$2,637,150	\$2,660,195	\$1,022,131	\$12,904,841
Private	\$21,568	\$19,502	\$5,714	\$2,674	\$13,062	\$62,520
Total	\$6,987,705	\$4,561,391	\$3,236,981	\$2,904,886	\$3,277,770	\$20,968,733

It is useful to common-size the aging by % of aging category, as follows:

Payer	0-30	31-60	61-90	91-120	Over 120	Total
Medicare	50%	21%	11%	3%	15%	100%
Medicaid	22%	8%	5%	3%	62%	100%
Insurance	50%	21%	6%	3%	20%	100%
Facility	23%	10%	6%	5%	56%	100%
Self Pay	27%	24%	20%	21%	8%	100%
Private	34%	31%	9%	4%	22%	100%
Total	33%	22%	15%	14%	16%	100%

Per Joyce, approximately \$7million of the balance in self-pay has been turned to a “scrubbing” agency to electronically screen for retroactive Medicaid approvals. My biggest concern, though, would be the large balance in Medicaid over 120 days, which may be the result of State payment policy. MedStar’s procedures and practices in following up on Medicare and Medicaid claims are excellent. Facility contracts and private pay, although not large dollars, ought to be collected more quickly.

Comparison to Other Systems

The City requested that The Polaris Group provide a comparison of MedStar's financial performance to that of several other EMS systems including other major cities in Texas and examples of different system designs. The following cities and systems were surveyed:

- Austin
- San Antonio
- Houston
- Dallas
- Arlington
- EMSA (Oklahoma City & Tulsa)
- MAST (Kansas City, MO)

The City of Dallas declined to provide system statistics and financial data for use in the survey. Houston Fire attempted to cooperate, but so far has not received permission to release the requested data. All other systems provided complete and useable operational and financial information.

Since Dallas and Houston are important points of comparison for Fort Worth, The Polaris Group conducted a lengthy and in depth investigation to collect information from publicly available sources. These included city budget documents, council minutes, internal reports available on the internet, city websites, Some information was acquired through individual conversations with city employees and some was gleaned from statements made by city representatives in the press. Other information was acquired from the US Census bureau and the National Fire Incident Reporting System (NFIRS). Finally, information gathered was compared for reasonableness to two previous cost surveys, one conducted by The Polaris Group and another conducted by a local government in another jurisdiction. While the consultants have used reasonable diligence to accurately report EMS data and costs for these cities, we cannot guarantee that all of the information is precisely accurate.

On Comparing EMS Systems

Operational and financial comparisons between EMS systems are difficult to make due to differences in system design, geography, demographics and budgeting methods. System design differences such as "emergency-only" versus full-service providers, and internal response goals rather than external monitoring of standards

mean that the numbers are often hard to compare. Similarly, local demographics prices charged and relative differences in the aggressiveness of billing efforts make revenue features such as collection rates very difficult to compare. Finally, many public departments do not report all of the expenses of their EMS and ambulance programs within their departmental budgets. For instance some cities do and others do not include costs for capital items, administration, communications centers, fleet operations, radios, human resources, legal, insurance, utilities, occupancy billing and finance. These items are sometimes located in other cost centers and cannot be attributed to the department that incurs them. For these reasons, we are certain that some of the expenses reported for some cities other than Fort Worth/MedStar are underestimated.

Metrics

The most useful metrics for the comparison of the economic effectiveness of EMS systems are:

- Unit Hour Utilization Ratio- This is a measurement of efficiency in the use of ambulance resources.
- Cost Per Transport- Is the total cost of the system divided by the number of transports for the same period.
- Cost Per Unit Hour- Is the total cost of the system divided by the number of unit hours produced during the same period.
- Cost Per Capita- Is the total cost of the system divided by the population of the service area.
- Subsidy Per Transport- Is the total subsidy, including hidden subsidies or expenses paid with tax revenues divided by the number or transports in the same period. And,
- Subsidy Per Capita- This is the total annual subsidy of the system divided by the population of the service area.

Because it was the last complete period for which most of the survey cities had actual results, the comparison data used is for the fiscal year ending 2009 (FYE 09).

System Descriptions

The following information describes the general system design and operational characteristics of the survey cities.

San Antonio

San Antonio provides an emergency-only EMS response through its city Fire Department. All services are at the ALS level using a peak of 36 and a minimum of 31 ambulances. Private ambulances serve non-emergency business and some referred 911 calls. The Fire Department has an internal goal of meeting an eight-minute response time and reported that it averaged eight minutes and five seconds during FYE 09. Prices are set by the city with little relationship to costs.

Houston

Houston provides emergency-only EMS response through its city Fire Department using a tiered system of response. Houston deploys 102 ambulances, the majority of which are staffed at a BLS level. Some ambulances are staffed with paramedics and paramedic engines are also deployed. Non-emergency calls are handled by a variety of private ambulance companies. The Fire Department has an internal goal of answering 90% of emergency calls within eight minutes, which we assumed to mean less than nine or 8:59. Since Houston did not provide cost information, we based the annual expenses on the known transport volume found in the City budget as actual experience for FYE 09 and a cost per transport that was widely quoted from a city official during a council meeting regarding ambulance rates. The charge per call was derived from reports of the same council meeting. Total collected revenue was found in the actual results of the city budget. Total unit hours are estimated based on 102 ambulances providing coverage 24 hours per day and 7 days per week. Finally, subsidy was calculated by subtracting the total collections from the total expenses.

Dallas

Dallas also provides emergency-only EMS services through the Dallas Fire Rescue Department (DFR). Private providers serve the non-emergency portion of the market. Dallas deploys a peak of 41 and a minimum of 32 ALS ambulances. They also use a reported 4 ALS engines to augment response in certain areas of the city.

In budget documents DFR reports that it achieved 88% of calls answered in eight minutes. Again, we presume that this means less than nine minutes or 8:59. Response and transport volume were found in the city budget description of FYE 09 actual experience. The average charge for service was estimated based on information publicly provided by DFR. Annual collections were sourced from another survey by a public agency that attributes the number to a person working in the city budget office. Annual expenses came directly from the city budget. Unit hours are estimated from the city's description of its deployment plan.

MedStar

For comparison, MedStar is a Public Utility Model system serving fifteen cities. PUM's are a variety of third service system design. MedStar deploys between 18 and 37 ALS ambulances to answer all 911 and non-emergent ambulance calls within the service area. MedStar has an externally set and monitored response time requirement of 90% of Priority 1 emergencies within 9:00 or less. Unit hours were reported by MedStar and confirmed by comparison to the deployment plan. All financial information was reported by MedStar and compared to audited financial statements to confirm accuracy.

MAST

The Metropolitan Ambulance Services Trust is another PUM that has served Kansas City, MO and the surrounding area for several decades. Like MedStar, MAST directly operates its system without the use of an operations contractor. The system is currently being converted to a Fire-based model, largely as a result of local union politics. A major obstacle to the conversion has been the necessity of committing more than ten million dollars to give MAST employees partial credit for time served while joining the city pension. The transition is also creating a great deal of staff turnover. During FYE 09 MAST used a minimum of 13 and maximum of 36 ALS ambulances to deliver single tier ambulance service to all emergency and non-emergency ambulance calls within the service area. MAST has an externally monitored response time requirement of 90% of Priority 1 emergencies answered within 8:59 or less. All financial information was provided by the MAST CFO and is confirmed by audited financial statements.



EMSA

EMSA is a PUM serving Oklahoma City and Tulsa, OK and surrounding communities. This PUM contracts with Paramedics Plus, a company owned by the East Texas Medical Center of Tyler, TX as its operations contractor. EMSA meets an externally monitored response time requirement of 90% of Priority 1 calls answered within 7:59 using a minimum of 18 and maximum of 59 ALS ambulances in both combined service areas. The EMSA system is single tiered and exclusive for all ambulance services. Subsidies in this system are currently raised through a three-dollar monthly surcharge on utility bills in the service area, which buys membership for most residents in the system's subscription program. All financial data was provided by the Authority's CFO and is tied to audited financial statements.

Arlington

The Arlington EMS system is a Failsafe Franchise Model (FFM). The FFM is similar in some respects to a PUM using a contractor. The most obvious difference is that the ownership of the major system assets and accounts receivable rests with the contractor rather than the governmental entity. Arlington externally monitors its contractor, American Medical Response (AMR), which must meet 90% compliance with an 8:29 response requirement for Priority 1 emergencies and grants exclusivity for all ambulance services within the city. All ambulances are ALS. AMR uses a minimum of 8 and maximum of 13 ambulances to attain that performance. All financial data was provided by the AMR Regional CEO and is derived from the pre-audit work papers used report audited financials to the city annually.

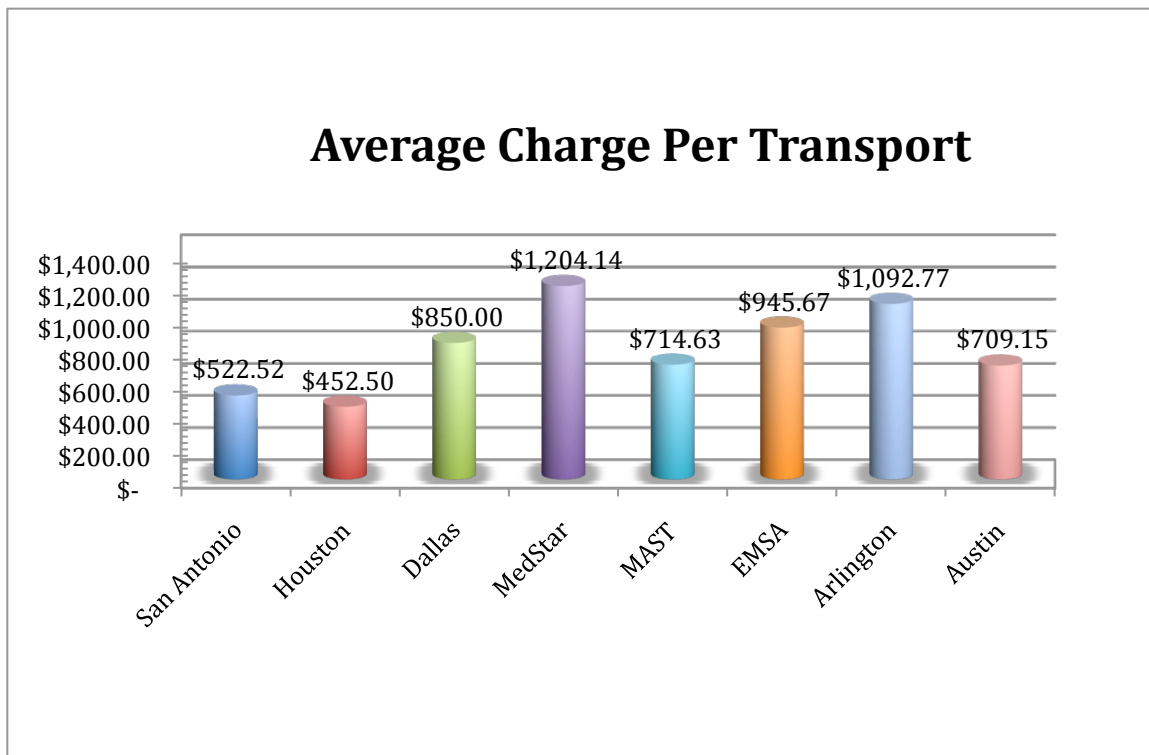
Austin-Travis County

The Austin-Travis County EMS System (ATCOEMS) is a third service joint powers arrangement between the city and the county. This government provider uses a minimum of 32 and maximum of 39 ALS ambulances to serve the 911 needs of the entire county. Private ambulances handle most of the interfacility ambulance business. Two paramedics staff all ambulances and the system has a reputation for advanced clinical performance and oversight. ATCOEMS claims to meet an internally

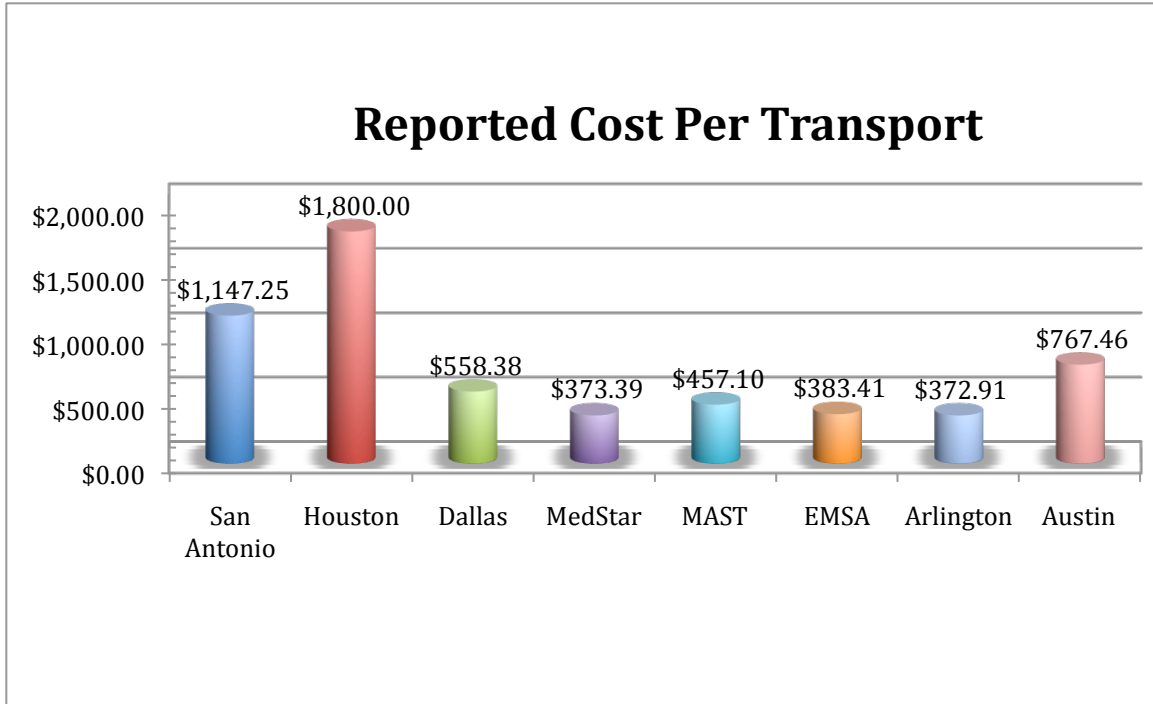
imposed goal of 90% of emergencies answered within 8:59. The system's Financial Manager provided all financial and operational data.

System Comparison

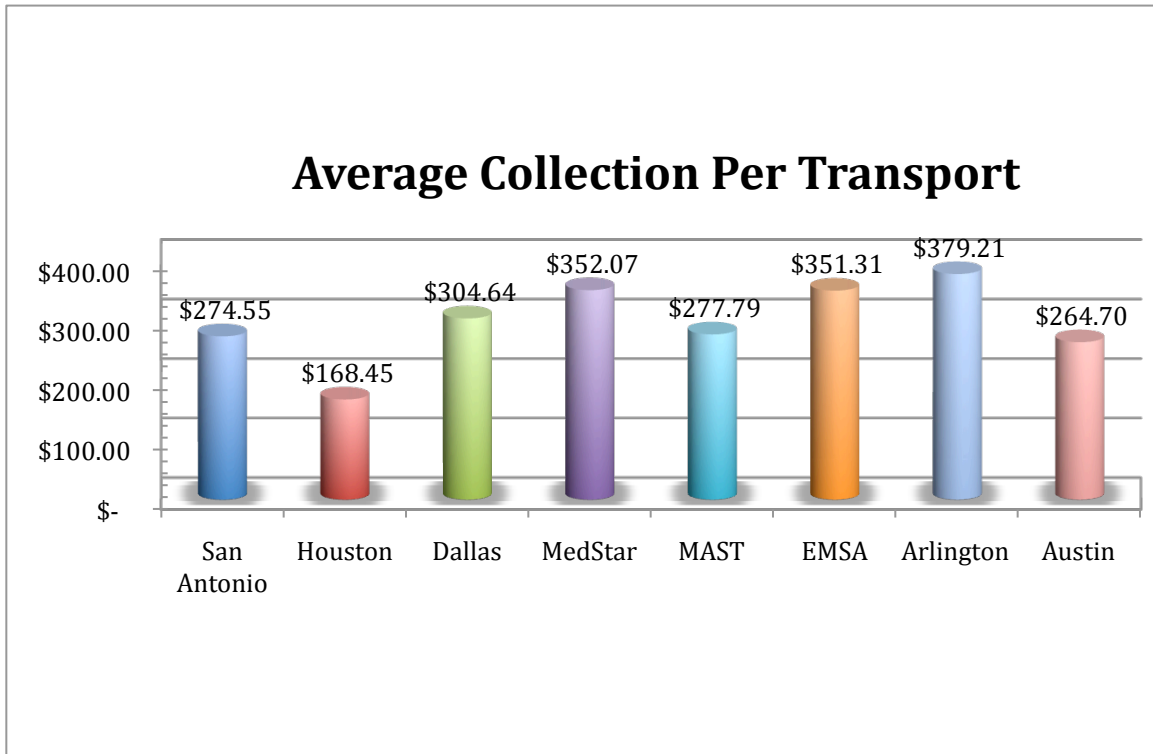
The systems compared here use different methods to serve their communities. While some are more financially efficient than others, financial efficiency alone may not describe the goals of the particular city served. Although some of these systems may not produce the level of performance that Fort Worth may prefer, they may meet local preferences.



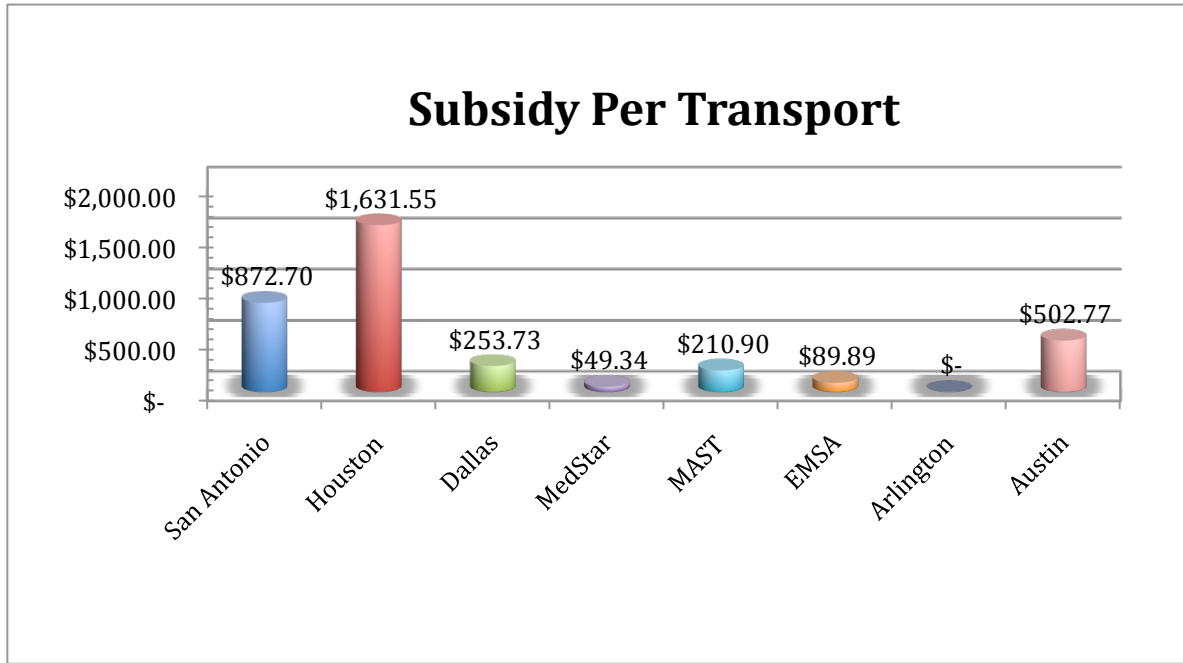
The average charge per transport is the total of all patient fees billed divided by the number of transports. Note that in FYE 09 San Antonio, Houston and Austin didn't even charge fees equal to their cost per transport.



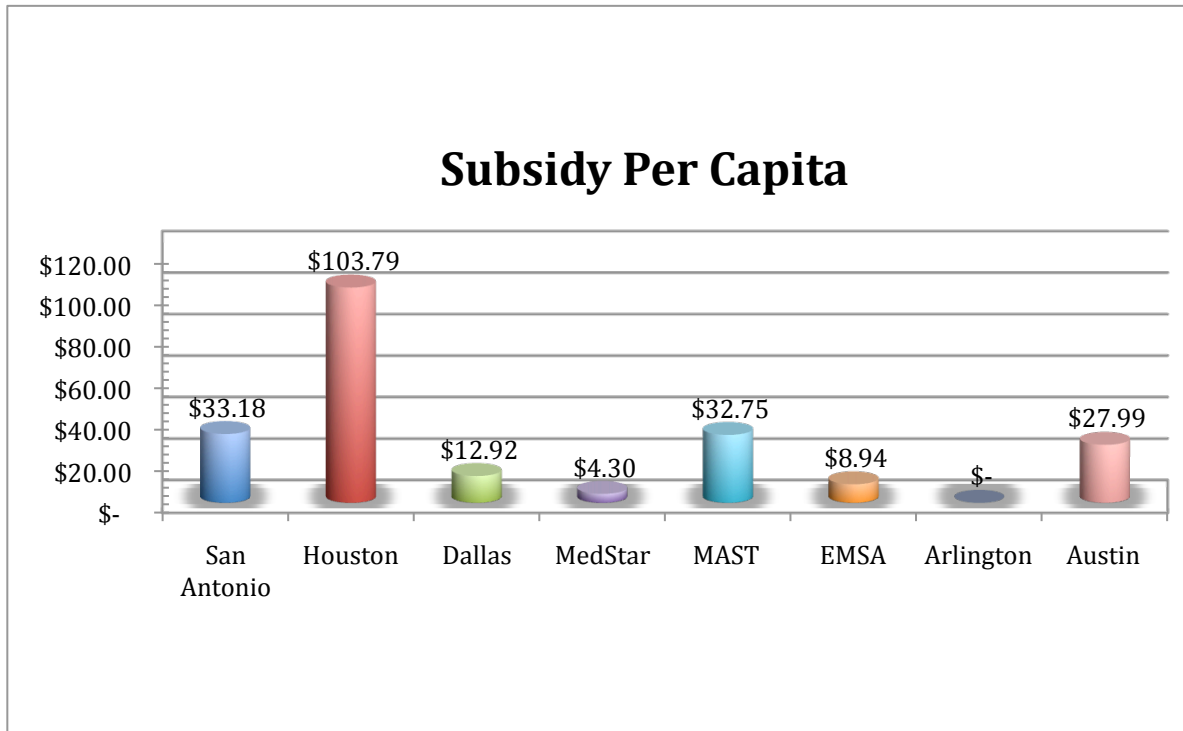
The reported cost per transport is the full cost of the ambulance system divided by the number of transports. The costs for Dallas and Houston may not include many costs that are included in the other systems due to city budgeting methods.



The average collection per transport represents all cash collected from patient fees divided by the number of transports.

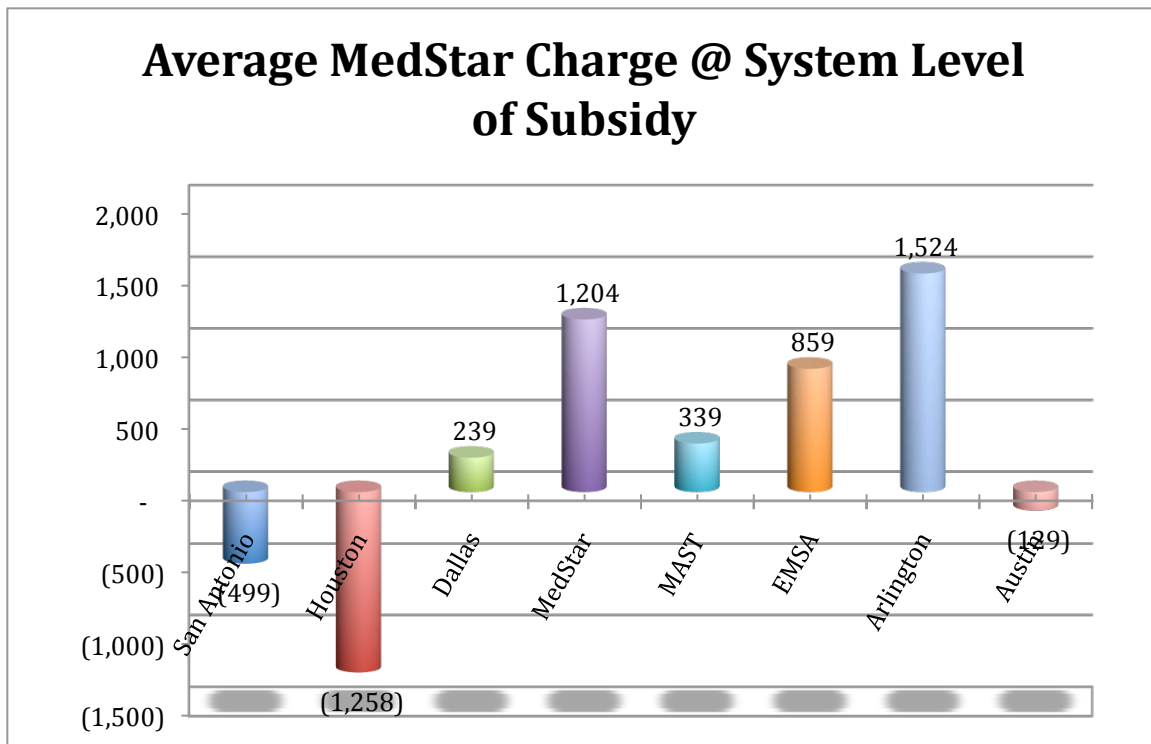


The subsidy per transport represents the total cost minus patient fees collected divided by the number of transports.



The subsidy per capita is the total subsidy divided by the population of the service area.

Finally, to put the subsidies experienced in other systems into perspective for the City of Fort Worth, the following chart depicts what average patient fees per transport MedStar would need to charge if it had the same subsidy per transport as each of the surveyed cities.



Given the same level of subsidy per transport as Houston, for example, MedStar would be able to cut a check to each patient transported for \$1,258 and still break even at its current cost structure.

EPAB

The Emergency Physicians Advisory Board is created by EMS ordinance and interlocal agreement to oversee the clinical components of the EMS system. Members are appointed to represent each hospital that maintains an Emergency Department and several medical specialties. EPAB in turn appoints the system Medical Director.

The Medical Director, a full time employee, is responsible, with the consent of EPAB for the day-to-day oversight and clinical development of the EMS system including ambulance and first response services. The Medical Director also oversees several EPAB employees and an Associate Medical Director. The Medical Director is well known in the industry as knowledgeable, experienced and capable of oversight of this complex high performance EMS system. Currently, the interlocal agreement states that the Medical Director shall serve on the AMAA Board of Directors, “*ex officio*, but with voting rights.”

The Fitch report itemized friction between the clinical staff at EPAB and at MedStar as an item in need of resolution. Operational management and the Medical Director appear to have largely resolved this issue. Recent changes in MedStar clinical management seem to be a positive development in this regard as well.

EPAB Funding

Funding for EPAB and the Medical Director is derived from a per transport assessment applied to each transport. This is a common funding mechanism in high performance EMS systems. What is uncommon about this particular arrangement is the method of escalating payment for this portion of the system. In 1998, the per-transport assessment was set at \$5.10. The interlocal agreement allows EPAB to increase this fee no more often than once per year by an amount not to exceed 5%. Based on EPAB’s financial statement for FYE 09 this per-transport fee is now set at \$7.67, an approximate 50% increase over 9 years. This increase is in addition to additional revenue gained through increases in the number of transports. These fees generated \$581,700 of EPAB’s total revenues of \$631,328.14 during FYE09.

Several stakeholders including elected officials and city management expressed concern regarding the level of public accountability for EPAB’s financial affairs. A review of the financial statement raises no specific concerns with how the funds are spent. The majority of the funds go for salaries, benefits and malpractice insurance. During the current fiscal period, EPAB is reported to have asked for no increase in its per-transport fee.

We have identified several concerns with the current method of setting annual funding for EPAB. The first is that this is for the AMAA Board a fixed driver of patient fees. As a fixed expense set by EPAB, AMAA has no oversight over this component of public rates.

The second concern is that the 5% cap provided in the interlocal agreement has two distinct potential problems. It may serve as a subtle target for annual increases since there are no consequences for EPAB as long as it does not ask for more than 5%. Alternatively, if EPAB faces increased expenses due to new demands or inflation, the 5% cap may not be sufficient to keep pace with prudent levels of funding.

Finally, since the rate is set by EPAB without other public oversight and the Medical Director is both an employee of EPAB and a voting member of the AMAA board, a perception of a conflict of interests may exist. Paragraph 3(d) of the interlocal agreement states:

“ No member of the Board of Directors shall have any interest, financial or otherwise, either directly or indirectly in any firm or organization which is a bidder for the competitively awarded contract, or in any firm or organization which contracts to provide ambulance service or other goods and services to the Authority.”

This arrangement may, in the future subject the Medical Director to potential liability. We do not believe that any inappropriate interest has been served by this arrangement. However, we recommend the implementation of two changes that will prevent any future appearance of a conflict, increase the security of EPAB’s funding and bring Improved public accountability.

Finding and Recommendation

We recommend that modifications be made to the EMS ordinance and interlocal agreement to achieve the following goals:

- Provide that the Medical Director serve as and *ex officio* member of the AMAA Board without voting rights and,

- Change the method of adjusting EPAB's annual funding, requiring EPAB to submit a proposed annual budget to the AMAA Board of Directors for approval.

Because the AMAA Board is appointed by the member cities, we believe that these changes will bring an increased level of public accountability to the financial affairs of EPAB.

Fort Worth Fire First Response

The Fort Worth Fire Department (FWFD) is geographically deployed to provide rapid all-hazards emergency response to the City. With 42 stations strategically located throughout the city, FWFD is frequently the closest response resource to calls for medical assistance. Because MedStar uses a variable staffing and deployment that adjusts the number and location of ambulances by time of the day and day of the week in an effort to remain economically efficient, FWFD's geographic deployment is a valuable safety net for those statistically rare emergencies that do occur in low probability locations or times.

Current Capabilities

FWFD provides BLS first response citywide primarily through the use of fire suppression apparatus and crews with medical credentials and equipment. It is counter intuitive that the use of large, expensive fire trucks with crews of four would be a cost effective method of responding to medical emergencies. However, because the city must maintain this geographic coverage to provide property protection and the benefits of lower property insurance rates for home and business owners, the use of this network to respond to medical calls is the most economically efficient model. Although the staffed response network is required, the occurrence of structure fires is relatively infrequent. By using the marginal capacity of the fire suppression resources, FWFD is engaged in vertical consolidation of its market by providing more services with the same apparatus and people.

The marginal cost of clinical credentials, clinical continuing education, medical assignment pay and clinical equipment is very low while the potential benefit to patients with extreme emergency conditions is very high. The presence of FWFD

crews on the scene of certain types of calls also provide an economic benefit to MedStar by eliminating the need to dispatch two ambulances to many calls because of manpower or lift assistance needs.

Utilization

Currently, FWFD first responders are sent to a variety of medical calls according to the call priority assigned during the EMD process at the MedStar communications center. Interviews with the Fort Worth Firefighter's Association and individual firefighters, revealed that the firefighters believe that they are sent on too many of the lower priority calls in which their services are not required. Specific examples include minor medical calls at the jail, certain types of senior living facilities and medical offices. The interviews additionally revealed that the firefighters, some of whom already have advanced certification and licensure, as paramedics would like to be able to provide limited critical advanced interventions to those high acuity patients that they encounter before the arrival of MedStar.

Advanced Life Support First Response

Basic Life Support interventions currently performed by FWFD first responders are generally supportive and non-invasive. They take vital signs, protect patients from further injury, administer oxygen and have the capability to defibrillate victims experiencing cardiac arrest. A few additional treatment capabilities may prove clinically effective in critical cases. Some jurisdictions have reacted to this opportunity to help patients by providing limited advanced life support skills and equipment to Fire first responders. For example, the addition of injectable epinephrine for the treatment of allergic reactions and the addition of metered dose inhalers and/or oxygen powered nebulizers for patients with certain types of breathing difficulty can provide rapid improvements in some critical patients' conditions.

Of course many Fire Departments provide ALS first response at the full paramedic scope of practice. This often proves problematic because of the dilution of clinical experience in systems with a large number of paramedics. Essentially, there are only so many advance procedures to go around in an EMS system and the more

paramedics you have, the less experience each one gets. Paramedic skill retention is more often compromised in complex, low frequency procedures and less so in relatively simple, higher frequency tasks.

Nearly any responder, once appropriately trained, can appropriately administer a simple injection of epinephrine or a metered dose inhaler. However, providers who only encounter a 12-lead EKG three times a month are not likely to recognize subtle distinctions between critical and benign changes in a patient's tracing.

Other systems including Arlington and Amarillo have embraced the concept of "limited advanced life support" first response. In each case, the system Medical Director has established which procedures and credentialing are required for the first responders to provide ALS intervention. We do not presume to specify what interventions would be appropriate in Fort Worth. That is the responsibility of the Medical Director and EPAB who are responsible for patient care in the system.

We do suggest that EPAB, the FWFD and the Firefighter's Association explore this concept. We further offer the opinion that several low complexity, highly effective interventions may prove beneficial to patient care within the system. Credentialing of "Fire Medics" to provide intermediate levels of ALS care could be easily accommodated within EPAB's existing credentialing model. Specialized local training or EMT-Intermediate certification may prove useful as a mechanism to begin such a program. Finally, use of the City tax money saved by eliminating subsidy to MedStar would provide significant funding for the advancement of this program.

Finding and Recommendation

The Fort Worth Fire Department and EPAB should jointly explore implementation of a limited advanced life support upgrade of the City's first response capabilities. Funds saved from the elimination of MedStar subsidies may be one source used to implement this new level of service. A detailed plan should be developed to establish the implementation and long term recurring costs associated with upgrading the FWFD first response to the limited advanced life support level. As part of the improvement of the first response system, EPAB, FWFD and MedStar

management should review protocols for the dispatch of first responders and optimize their utilization.

System Design Models

The City specifically requested that The Polaris Group conduct evaluations of the probable impact of replacing the services currently provided by MedStar with several different system designs. There are many variables involved with comparing one system design with another. These include funding, financial incentives, system oversight, economies of scale, political realities and the culture of the different types of organizations.

To conduct the evaluation as fairly as possible, the consultants used the same charge per call and collection rate in each model. Models other than MedStar used an assumption that call volume outside of the city limits would be lost as the City withdraws from membership in the interlocal agreement. We further assumed that in all models other than the Failsafe Franchise Model, the City would be able to provide the service at the same cost per unit hour that MedStar currently produces. Because we do not know what the cost would be, we have omitted any one-time expense for funding contributions to the City pension system. For reference, in a similar sized system, the conversion of MAST personnel from a defined contribution program to the City's defined benefit program using only partial credit for time served is estimated to have a one time cost in excess of \$10 million.

MedStar PUM

This version of the model presents the actual results for MedStar during FYE 09 and serves as the reference point for comparison.

Fire Model

This version accounts for the loss of responses and transports from a Fort Worth only system. It also assumes lower productivity expressed as UHUR, to make it comparable to the highest productivity Fire system surveyed. Fire EMS utilization is normally lower due to a cultural and collective bargaining preference for 24 hour shifts. People working longer hours usually cannot sustain higher productivity

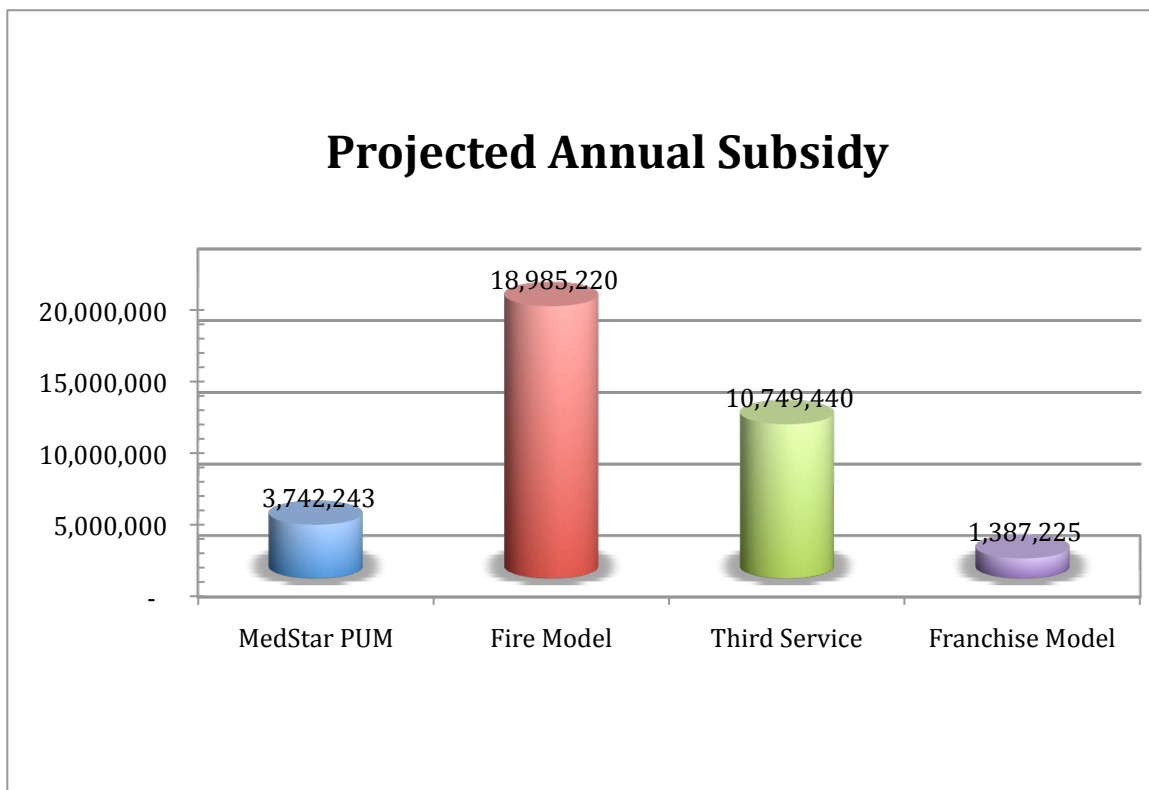
levels. We have made no adjustments in this model for City pension costs in excess of MedStar’s current plan.

Third Service Model

This model uses the same assumptions as the MedStar PUM model with the exception of adjusting call and transport volume to reflect a City only service and lowering productivity assumptions to account for a loss of economies of scale in serving the entire City without contiguous the service areas of the other member cities. We have made no adjustments in this model for City pension costs in excess of MedStar’s current plan nor have we made any assumptions regarding additional City overhead costs to serve a new department.

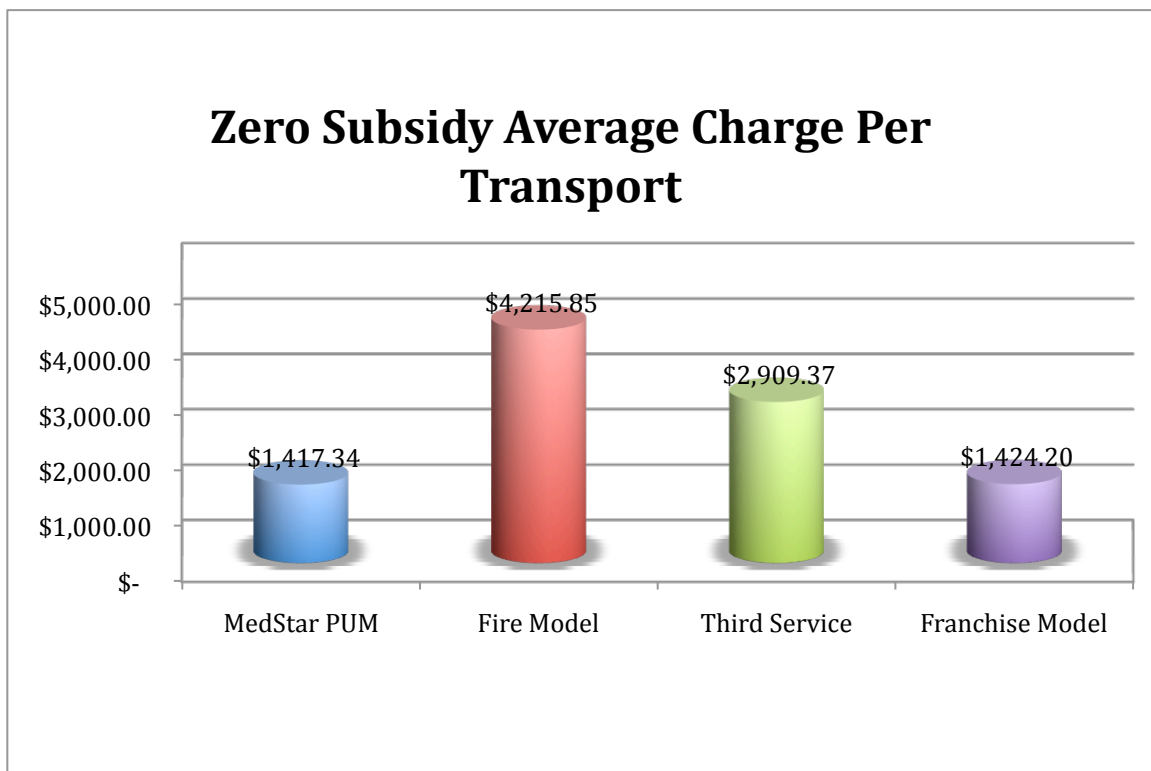
Franchise Model

This model is based on the City only volume assumptions as well as unit hour costs and productivity levels reported by AMR in Arlington. No expenses were added to accommodate a competitive procurement or contract oversight.



The projected annual subsidy, based on FYE 09 assumptions is illustrated here. The MedStar model includes the highest levels of subsidy that the MedStar has ever received.

Since we are recommending that the City end its subsidy of MedStar, a comparison is included to estimate the average charge per transport that would be required to operate each model at zero subsidy. Declining collection rates were assumed as the rates increased. Even though we have attempted to adjust for lower collections it is entirely possible that adequate collections would be impossible at average rates approaching \$3,000 per ambulance call.



Regarding Procurement of a Contractor

The process required to safely contract with a private provider is relatively complex. MedStar’s experience with contractors illustrates that management of the system through a contractor does not simplify the process in all cases. Should the City decide to establish a Failsafe Franchise Model similar to that currently operating in Arlington, several additional things should be carefully considered. These include:

- Withdrawal from the interlocal agreement, except for uncured response time failure would likely see the loss of Fort Worth's substantial investment in MedStar.
- Withdrawal from the interlocal agreement would leave at least several of the other member cities in a difficult position. Using the forfeited Fort Worth share of the assets, these cities may be able to continue a lower performance EMS system for a few years, but ultimately they will run out of resources.
- Any change in operational provider, whether a City department or a contractor entails significant risk that another expensive learning curve will be required to progressively refine the operation to achieve the current level of performance.
- To conduct a fair and open procurement with adequate startup time, 12 to 18 months is the minimum period for the process.
- Costs for consultants, staff time and outside legal and other services would be significant.
- The City would need to establish a mechanism and staff to provide oversight of the contractor. Arlington at one-third the size has a Battalion Chief, full time civilian analyst and a portion of the Assistant Chief and Chief's time committed to contract oversight.
- With the withdrawal from MedStar, the City would likely need to hire a Medical Director.
- The competitive environment for contracts of the size and complexity of Fort Worth is quite small. Only two or three national companies are likely to have the experience, expertise and resources to submit a qualified proposal. They know that and they know each other very well. Several recent procurements have resulted in very difficult political choices between very expensive, high quality bids and very inexpensive, apparently lower quality bids. These procurements leave the governing body on the horns of a dilemma. To be blamed for lowering quality or for significantly raising prices.
- If, at some future date the City opts to utilize an operations contractor, the MedStar structure is an excellent vehicle for such a process.



- The Polaris Group generally recommends that, in the absence of a legal requirement, any client not completely redesign its EMS system or conduct a procurement unless it has a reasonable opportunity to significantly improve either the quality or the cost of the service.

Finding and Recommendation

The Polaris Group recommends that the City of Fort Worth remain a member of the AMMAA and MedStar. The City, through its majority on the AMAA Board of Directors, should influence the service levels and costs of service. By implementing an enhanced level of limited ALS first response of Fire Department First Response the City can leverage existing resources to augment service to the public. If a reliable system of ALS first response is implemented and credentialed by EPAB, the City may choose to modify the response time criteria, as delineated in the ordinance and interlocal agreement, to reduce the cost of ambulance services.

Finding and Recommendation

The Polaris Group recommends that the City of Fort Worth eliminate its tax subsidy of MedStar during the next contract year. The interlocal agreement requires that the City notify AMAA of its intention to select zero subsidy no later than July 31 with new rates and zero subsidy becoming effective on January 1 of the following year. The AMAA Board may entertain changing the Price/Subsidy selection earlier.

Implementation

Implementation of the recommendations contained in this report is a relatively simple matter compared to establishing a new City department, significantly altering the role of the Fire Department or conducting a competitive procurement.

The primary tasks include:

1. Modify the ordinance and interlocal agreement to change the method of adjusting EPAB funding and to resolve a potential conflict of interest in Board membership. This will necessarily involve coordination with the other member cities.



2. Develop a plan to enhance the first response services provided by the Fort Worth Fire Department including better selection of calls requiring first response and the addition of limited ALS first response capabilities.
3. Notify the AMAA Board that the City intends to exercise its option to curtail tax subsidy of the system as soon as possible. The AMAA Board may be willing to consider waiving the time requirements for this step.
4. Amend the interlocal agreement and ordinance to grant exclusivity for ambulance standby services to MedStar.
5. Once a reliable limited ALS first response system is credentialed by EPAB, the City may choose to modify the MedStar response time requirement as detailed in the ordinance and achieve reduced fees for service within the City.
6. Develop a plan to regularly report progress in implementation to the City Councils of all member cities.

The Polaris Group believes that the recommendations of this report can be implemented at a consulting cost that is lower than the amount specified in our phase two proposal. We would welcome an opportunity to discuss a scope of work and refined price if the City determines that it would like to implement these recommendations.



Appendix 1- Comparison of EMS Systems

Comparison of EMS Systems

Year	2008-2009	2008-2009	2008-2009	2008-2009	2008-2009	2008-2009	2008-2009	2008-2009
System	San Antonio	Houston	Dallas	MedStar	MAST	EMSA	Arlington	Austin
Population	1,373,491	2,257,412	1,240,499	869,650	441,545	1,200,000	374,417	1,008,345
Calls	126,654	229,004	156,861	95,835	88,000	158,152	37,801	97,389
Transports	52,225	143,600	63,189	75,853	68,558	119,356	24,329	56,127
EMT's	-				106	229	27	
Paramedics	392				106	285	79	336
EMD's	48				21	37	10	35
Peak Ambulances	36	102	41		36	59	13	39
Minimum Ambulances	31		32		13	18	8	32
Annual UH's	275,568	893,520	316,992	216,786	223,381	336,033	89,786	279,816
Pri 1 Response Time	Avg 8:05	90% in 8:59	88% in 8:59	90% in 9:00	90% in 8:59	90% in 7:59	90% in 8:29	90% in 8:59
Oversight	Internal Goal	Internal Goal	Internal Goal	External Req	External Req	External Req	External Req	Internal Goal
Revenue								
Gross Billings	27,288,568	64,979,000	53,710,650	91,337,732	48,993,676	112,871,711	26,586,059	39,802,720
NR	14,338,478	24,190,000	19,250,000	26,705,408	19,044,969	41,931,500	9,225,906	14,856,639
Subsidy	45,576,904	234,290,000	16,033,212	3,742,243	14,458,715	10,729,058	-	28,218,815
NNNR	59,915,382	258,480,000	35,283,212	30,447,651	33,503,684	52,660,558	9,225,906	43,075,454
Total Annual Expenses	59,915,382	258,480,000	35,283,212	28,322,598	31,337,801	45,762,118	9,072,594	43,075,454
Revenues Exceeding Costs								
UHUR-C	0.46	0.26	0.49	0.44	0.39	0.47	0.42	0.35
UHUR-T	0.19	0.16	0.20	0.35	0.31	0.36	0.27	0.20
Cost per call	\$ 473.06	\$ 1,128.71	\$ 224.93	\$ 295.54	\$ 356.11	\$ 289.36	\$ 240.01	\$ 442.30
Cost per transport	\$ 1,147.25	\$ 1,800.00	\$ 558.38	\$ 373.39	\$ 457.10	\$ 383.41	\$ 372.91	\$ 767.46
Cost per UH	217.43	289.28	111.31	130.65	140.29	136.18	101.05	153.94
Cost per Capita	43.62	114.50	28.44	32.57	70.97	38.14	24.23	42.72
Subsidy per Capita	33.18	103.79	12.92	4.30	32.75	8.94	-	27.99
Subsidy per Transport	\$ 872.70	\$ 1,631.55	\$ 253.73	\$ 49.34	\$ 210.90	\$ 89.89	\$ -	\$ 502.77
Average Charge/T	\$ 522.52	\$ 452.50	\$ 850.00	\$ 1,204.14	\$ 714.63	\$ 945.67	\$ 1,092.77	\$ 709.15
Average Collection/T	\$ 274.55	\$ 168.45	\$ 304.64	\$ 352.07	\$ 277.79	\$ 351.31	\$ 379.21	\$ 264.70
Gross Collection Rate	52.54%	37.23%	35.84%	29.24%	38.87%	37.15%	34.70%	37.33%
Responses/Capita	9.22%	10.14%	12.64%	11.02%	19.93%	13.18%	10.10%	9.66%
Transports/Capita	3.80%	6.36%	5.09%	8.72%	15.53%	9.95%	6.50%	5.57%



Appendix 2- Comparison of System Designs

Comparison of System Designs

Year System	Using FYE08-09 Data			
	MedStar PUM	Fire Model	Third Service	Franchise Model
Population	869,650	700,423	700,423	700,423
Calls	95,835	77,047	77,047	77,047
Transports	75,853	63,038	63,038	63,038
Annual UH's	216,786	315,190	252,152	233,474
Revenue				
Gross Billings	91,337,732	75,906,745	75,906,745	75,906,745
NR	26,705,408	22,193,682	22,193,682	22,193,682
Subsidy	3,742,243	18,985,220	10,749,440	1,387,225
NNNR	30,447,651	41,178,903	32,943,122	23,580,908
Total Annual Expenses	28,322,598	41,178,903	32,943,122	23,580,908
Revenues Exceeding Costs	2,125,053	-		
UHUR-C	0.44	0.24	0.40	0.42
UHUR-T	0.35	0.20	0.25	0.27
Cost per call	295.54	534.47	427.57	306.06
Cost per transport	\$ 373.39	\$ 653.24	\$ 522.59	\$ 374.07
Cost per UH	\$ 130.65	\$ 130.65	\$ 130.65	\$ 101.00
Cost per Capita	\$ 32.57	\$ 58.79	\$ 47.03	\$ 33.67
Subsidy per Capita	\$ 4.30	\$ 27.11	\$ 15.35	\$ 1.98
Subsidy per Transport	\$ 49.34	\$ 301.17	\$ 170.52	\$ 22.01
Average Charge/T	\$ 1,204.14	\$ 1,204.14	\$ 1,204.14	\$ 1,204.14
Average Collection/T	\$ 352.07	\$ 352.07	\$ 352.07	\$ 352.07
Gross Collection Rate	29.24%	29.24%	29.24%	29.24%
AVG Rate Increase for zero Subsidy	213.20	3,011.71	1,705.23	220.06
Avg Zero Subsidy Charge	\$ 1,417.34	\$ 4,215.85	\$ 2,909.37	\$ 1,424.20