Risk Reduction through Cooperative Medical Control

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CERTIFICATION STATEMENT

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

Signed: ________________________________
Abstract

The Flower Mound Fire Department’s (FMFD) hospital-based EMS medical control contract was not being renewed. This decision left several area fire department EMS providers without administrative support for their physician medical director, a position legally required for an ambulance in Texas. This research sought to determine the best option for FMFD and its neighboring agencies to manage EMS oversight. Using the evaluative method, research included reviews of legal requirements, literature, process tools and relevant interviews. Research answered questions pertaining to services that would need sustainment, suitable options, EMS risk mitigation and the best option for the FMFD. Recommendations include maintaining support of the regional concept, strengthening of the Clinical Steering Committee and continued research into quality initiatives.
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Risk Reduction through Cooperative Medical Control

The Flower Mound Fire Department (FMFD) is a suburban paid fire department located in the northern reaches of the Dallas/Fort Worth, Texas metropolitan area. Providing Emergency Medical Services (EMS) to the community of Flower Mound since the fire department’s organization, the department has a Mobile Intensive Care Unit (MICU) ambulance at each of three stations on constant duty, with two additional stations planned in the next two years. In the State of Texas, the ability to have ambulance capabilities requires a medical control relationship with a licensed physician. In addition, the EMS provider must ensure that all personnel who staff the MICUs are currently certified or licensed in the knowledge of the standard of care, and providing that care on a daily basis.

During the last eight years, the relationship between the Flower Mound Fire Department and its off-line Medical Control Physician was managed through a local community hospital. About two years ago, the hospital determined that it was not in its best business interest to maintain this relationship and notified their twelve fire department EMS providers that this contract would not be renewed. Services coordinated by the hospital were the physician liaison relationship, protocol management and credentialing, continuing education coordination and performance improvement oversight. Some of the departments were large enough to begin providing these services on their own; however there were five smaller departments in Denton County for which this would prove difficult.

The Flower Mound Fire Department (FMFD) is the neighbor and mutual aid partner to these Denton County departments, and began to consider the feasibility of providing these services to the smaller agencies. The problem would be to combine the need to have a dedicated EMS manager to handle the medical oversight workload with a price that was affordable to these
smaller agencies. Additionally, the Medical Director’s desire was to continue the quality work that his medical control system was known for. Addressing these challenges for the FMFD and its neighbors was the driver of this applied research. Without a solution, the ambulance services in these communities were at risk.

The purpose of this Applied Research Project (ARP) is to address the challenges defined by the transition in a manner to ensure that quality patient care remained a constant for the patients of these communities. The evaluative method of research will be used for the development of this ARP. The research methodologies will consist of legislative and literary review, personal interviews, and the evaluation of available tools to support the desired results. The research questions asked what services were being provided by the hospital that the providers needed sustained and what are the options for providing these services? Most importantly, what tools can be adapted to assist the agencies mitigate risk related to the provision of EMS care in these communities? And finally, is it appropriate to the mission of the Flower Mound Fire Department to step forward and manage a regional medical control for area fire department EMS providers?

Background and Significance

The Town of Flower Mound joined the Baylor Medical Center at Grapevine’s EMS Medical Control System (the hospital) at its inception. This was a cooperative effort with other fire-based EMS providers to profit from the stability of the hospital’s resources, their support of the physician Medical Director, and their provision of an EMS Manager and staff to coordinate the required elements for an EMS provider in Texas.

This approach became very successful. Frequent meetings were held where Chief-level representatives met with physicians, hospital representatives and staff from the state’s EMS
regulatory agency. Committees solved many process issues, and several system participants won awards and recognition for what was developed. The core of the hospital system was quality patient care, and the leadership of the EMS Medical Director physician, along with the Chiefs, used by-laws, process tools and peer pressure to accomplish this goal.

After many years, the hospital began to show signs of diminishing support, so the leadership of the System was not surprised when the hospital announced that they would not renew the contracts at the expiration in six months. This provided a challenge that also created an opportunity. All agencies now had to decide how to manage their EMS responsibilities and whether to remain with the current medical director or pursue other options. For quality control throughout his protocols, the Medical Director required any agency remaining with him to continue to receive their required continuing education through the current vendor, a local county junior college. Four of the larger departments could chose to remain with the physician but support all of the other endeavors with their own personnel. They could do this because their location within the same county as the college allowed them to contract directly with that school.

However Flower Mound and five other agencies would be unable to maintain the relationship with this college because they were in a neighboring county. This meant that these agencies would need a unique solution to stay with this college and the current medical director. Additionally, Flower Mound would need to add a staff member to support EMS operations in-house, while the other smaller agencies would need support but not have the need or the finances for their own full-time person.

A possible solution was to ask the other Denton County departments to divert the EMS funds they had allocated for the hospital now to the Flower Mound Fire Department. FMFD was large enough to need a full-time EMS Chief; however the financial support of other communities
would help FMFD to get the position approved. Then the new EMS Chief would also have supporting responsibilities previously provided by the hospital staff to the other agencies. How to make this happen while keeping patient care the focus instead of economics was the big challenge.

The prospect of change, especially when the end result was still unknown, was especially daunting for some. According to Strebel, most employees and mid level managers frankly hate change. He says that most feel it is "disruptive and intrusive" (1996), while others feel that upper level managers thrive on the challenge of change and the professional opportunities they present. Inherently, this tends to separate leaders from followers based on how one sees the challenge of change. People that are in the trenches, but relish change and the personal and professional victories that can result, tend to rise up the ranks and reinforce the different attitudes. A gap results that is not only in job description, but very much ingrained in the culture of the organization.

This System found itself in that mode. Some of these departments had only known this system and the support provided by the hospital. There were some department representatives that either did not understand the positive energy of change or were not engaged enough to care. Fortunately some of the representatives were Chiefs with vision that saw what a change could offer. This is the environment that existed approximately eighteen months ago when an investigation into the desired changes began.

What did this System have as resources for the necessary change? The organization was founded as a cooperative effort between several fire departments and the community hospital to take advantage of the resources and skills both brought to the table. The loss of the hospital as a part of this system could be very acute; however the upside was that the fire service only sees the
need for rapid change when it is imperative that it occurs. By understanding this, the fire service leaders of the System took control. Early on, there were four of the larger departments that wanted to remove themselves from the system arrangement. This left Flower Mound, by population the largest of the group, with the remaining communities from Denton County deciding to investigate staying together.

The priorities established by the current medical director and agreed upon by the system participants included:

1. Continuity of the level of prehospital care for the participant agencies;
2. Continuity during the transitional period of credentialing of personnel;
3. Continuity of EMS continuing education through a common provider for all of the Medical Director’s agencies;
4. Ensuring that each member department of any size would continue to have the resources needed to sustain the current level of care in their community;
5. Ensuring that the Medical Director would have the insurance and financial support to maintain his role for the agencies that wanted to remain under his medical oversight; and
6. Ensuring that all of the above would occur with minimal financial impact to the community if at all possible (J. Ansohn, personal communication, April 10, 2006).

Additionally, by investigating this issue the research provides ideas on how to support the loss of life reduction initiatives adopted by the United States Fire Administration (USFA) and the Five Es (Education, Engineering, Enforcement, Emergency Response, and Economic Incentives) as described in the Leading Community Risk Reduction Course (NFA LCCR, 2007). Especially relevant is the E of Engineering in finding a solution that sustains quality patient care. This
project also supports the USFAs operational objective for the fire service to develop risk-reduction community initiatives, in this case specifically related to fire service EMS (NFA ARP, 2007, p. II-2).

Literature Review

Literature review centered on review of the requirements for an EMS provider in Texas, as well as what was desired to maintain the high standard of care this physician was known for. Finally, there was some investigation into a system development process that could also be replicated for other departments to use.

Regulatory and System Documents

One of the first priorities in the coming transition was to ensure that no regulatory requirements were missed. EMS is regulated in Texas by the Texas Administrative Code (TAC), with sections in Title 25, Part 1, Chapter 157 related to Emergency Medical Services (2007) and in Title 22, Part 9, Chapter 197 covering physicians in EMS (2007). The hospital’s EMS manager was an experienced EMS administrator and kept current on changes in requirements and the standard of care to assist the agencies (R. Morris, personal communication, August 11, 2007).

A large part of the hospital’s relationship was with the physician EMS Medical Director. Included were such varied relationships as protocol maintenance, assistance with credentialing oversight, review of continuing education and training, managing his meetings related to EMS and the medical control group, and his time, payroll and expenses (L. Bedrich, personal communication, August 15, 2007). The patient care oversight through protocols and credentialing is particularly critical, because the EMS medical control physician allows all of the certified and licensed EMS personnel under his direction the authorization to provide patient care
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directly under his personal license (TAC, 2007, Title 22, Part 9, Rule 197.1, (c)). This “delegated practice” (TAC, 2007, Title 22, Part 9, Rule 197.2, (4)) is an unusual part of EMS care across the country, but is the core tenant of the EMS system in Texas. The protocols used in the current system are considered “standing delegation orders” (2007, Rule 197.2, (12)) provided as off-line medical direction.

Off-line medical direction requires a specific list of requirements of the EMS physician, many of which are usually facilitated by some type of support staff (TAC, 2007, Title 22, Part 9, Rule 197.3, (b)). These include:

1. Establishing the level of care through credentialing of what the personnel under a medical director can do, regardless of the level of state licensure or certification;
2. Establishing and monitoring field performance guidelines, essentially the system’s standard of care for all elements of the protocol;
3. Establishing and monitoring the education and training guidelines to minimally meet the Texas Department of State Health Services (DSHS) certification regulations;
4. Managing the standard delegation orders for system pre-hospital care including “triage, transport, transfer, dispatch, extrication, rescue, and radio-telephone-telemetry communication” ((b)(4)); and
5. Directing an effective performance improvement program.

Other items in the rule mention acting as a liaison between the agency and the local medical community, ensuring that an appropriate legal agreement is in place for the physician/provider relationship, monitoring and leading situations involving personnel remedial or corrective measures including suspension, and managing issues regarding patient transportation and complaints (TAC, 2007, Title 22, Part 9, Rule 197.3, (b)(1)-(14)).
Another component of the relationship coordinated by the hospital was assisting the providers in the management of the many required certifications and licenses for an EMS provider in Texas (L. Bedrich, personal communication, August 15, 2007). Table 1 demonstrates the number of these and the agency to which the provider is responsible.

Table 1.

*Regulatory Certifications and Licenses Required for Texas EMS Providers*

<table>
<thead>
<tr>
<th>License or certification</th>
<th>Regulatory Agency</th>
<th>Holder</th>
</tr>
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<tbody>
<tr>
<td>EMS Provider License</td>
<td>Texas Department of State Health Services</td>
<td>Individual EMS Provider (FD)</td>
</tr>
<tr>
<td>Texas Controlled Substances Permit</td>
<td>Texas Department of Public Safety</td>
<td>EMS Medical Director at each of the individual EMS Providers</td>
</tr>
<tr>
<td>CLIA Waiver</td>
<td>CMS</td>
<td>Individual EMS Provider</td>
</tr>
<tr>
<td>Controlled Substances Registration Certificate</td>
<td>United States Department of Justice</td>
<td>Individual EMS Provider</td>
</tr>
<tr>
<td>State Physician Permit</td>
<td>Texas Medical Board</td>
<td>EMS Medical Director</td>
</tr>
<tr>
<td>On-going Continuing Education Program</td>
<td>Texas Department of State Health Services</td>
<td>Individual EMS Coordinator and EMS Medical Director</td>
</tr>
</tbody>
</table>

*Note:* Information compiled from various regulatory sources by DSHS EMS Advanced Coordinator L. Bedrich on September 5, 2007.

**EMS Quality and Risk Reduction**

Quality is an essential part of any organization that proposes to associate with EMS care. More than just a delegated component to an EMS Manager, it must be integrated wholly within the mission (Kallsen and Stroh in Swor and Pirrallo, 1993, pp. 9-10). To achieve this end, the physician as the “system’s patient advocate” (p. 11) must be a partner between the medical and administration parts of the group.

One tract that EMS has taken successfully is to take on some of the characteristics of “High Reliability Organizations” (HROs) (Pirrallo and Forster in Swor and Pirrallo, 1993, pp. 34). HROs are considered those fields where failure can lead to the most devastating
consequences, such as in the nuclear power and airline industries (p.34). These industries are successful in quality initiatives because of several key components that EMS actually shares with them:

1. There is a “deference” (p. 35) to experience that allows an individual that is not necessarily the boss the authority to stop an operation for a safety violation;
2. There is an understanding of the importance of “resilience” (p. 35), defined as crews knowing that both “practiced routine” (p. 35) as well as being able to adapt to unusual circumstances and events are part of the job;
3. A “preoccupation with failure” (p. 35) exists, demonstrated by the numerous after action and performance improvement reviews, to learn from past experience;

However the authors point out differences as well; several of these are especially concerning (Pirrallo & Forster in Swor & Pirrallo, 1993, pp. 34-35):

1. There is a large disparity between the number of personnel assigned just to safety in HROs and in EMS systems;
2. There is a lack of investment in the infrastructure to monitor quality and provide real time data in EMS as is found in HROs;
3. There is understandable but critical variability of detail between the two industries. For example, nuclear reactor specifications are extremely detailed while patient populations may show trends but they will never be truly predictable; and
4. EMS desired outcomes are not very well identified on any level, making measurement to a standard almost impossible.

Bagian, a physician, engineer and astronaut, discussed an additional difference in a meeting on quality in healthcare to a group of practitioners (October 24, 2007). He said the
major difference between industries like the airline and nuclear and healthcare is the level of "skin in the game" (October 24, 2007). If the plane crashes, the pilot suffers the same consequences; in healthcare you may not even know that the patient is suffering any ill effects.

Bagian also spoke specifically about "goal selection" (October 24, 2007) and stated that healthcare typically focuses on the wrong end and wrong party in error situations. The goals in patient care should be based on outcomes, while the medical community tends to measure errors. Trying to end errors is a tactic that is much less important than the goal to better patient care.

EMS Systems Development

During the literature review process, the mention was made by one of the participants in the transition that this was similar to a strategic planning process. A search found several tools related to strategic planning; however the American Society for Training and Development (ASTD) publication Rapid Strategic Planning appeared to have many ideas concurrent with the planning of an EMS system (Barksdale and Lund, 2002).

From a system development process perspective, the first step is to ensure the appropriate advocates are identified for the oversight group. Barksdale and Lund include a worksheet "Identifying Planning Advocates" (2002, Appendix A) that serves as an exercise to ensure everyone necessary is included. This process helps the user recognize that including the existing advocate roles of customer, stakeholder, business partner and sponsor will broaden awareness of the role of EMS in a community. Other information provided to assist with this stage of system development are suggestions for overcoming advocate resistance (pp. 5-19). By taking the time to consider common resistance efforts of time, data overload, politics, ownership, resource constraints, hidden agendas and alternative agendas, there can be proactive mitigation to keep the process on-track.
Once the oversight group is defined they will help to map the system’s needs. A second worksheet “Mapping your Organization’s Needs” (Barksdale and Lund, 2002, Appendix A) helps to evaluate the areas regarding communication of the strategic vision, infrastructure, competitive advantage, customers and learning/innovation.

Barksdale and Lund suggest that crafting a mission statement can be done with this oversight group, but find it useful to consider ground rules first (2002, pp. 63-74). Brainstorming is the heart of getting open and creative input. Consider these guidelines during this session:

1. Everyone should participate. Provide incentives if necessary.
2. Don’t evaluate your ideas at first – just get them out and up. Speak whatever comes to you – don’t hold back.
3. Don’t evaluate others ideas – it slows down the process and is not productive.
4. There is no “wrong” answer in a brainstorming session.
5. Piggybacking (adding onto someone else’s idea) is encouraged.

During the facilitation of this meeting, Barksdale and Lund suggest to first consider the following three questions to brainstorm and post the results on paper around the room:

1. What words would should people think of when this group is mentioned?
2. Why does the group exist?
3. How would anyone know if the group has been successful in its endeavors? (pp. 63-74)

With these answers recorded the worksheet “Parts of the Mission Statement” (Barksdale and Lund, 2002, Appendix A) help to answer the questions that define each part of the developing statement. These can then be crafted into draft statements for discussion, and
compared with “Criteria for Effective Mission Statements” (Appendix A). If there is any one “no”, then it should be reworked until it meets all of the tests.

Because of the change involved in this situation, messaging of the change is critical. Barksdale and Lund make these suggestions for organizing that effort (2002, pp. 105-113):

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>1. Determine key messages.</td>
<td>Define what is key about the most important information; an example would be why this is being presented at this time.</td>
</tr>
<tr>
<td>2. Determine the audiences and identify the messages each should receive.</td>
<td>This process will help to identify if the message should be different for differing audiences. This is very likely and is important to consider if the communication are to be a success.</td>
</tr>
<tr>
<td>3. Identify communication points and establish a communication timetable.</td>
<td>Communication points are milestones in the change process. Examples might include the kick off of each of the tactics, or the budget process. This is very individualized, but important to map out strategically.</td>
</tr>
<tr>
<td>4. Gather resources to support communication and information distribution.</td>
<td>Get together the resources to pull this off. Examples might be using an IT Department for webpage support or educators for presentation development.</td>
</tr>
<tr>
<td>5. Develop and pilot materials.</td>
<td>After creation, do not neglect testing the materials. It is a step many want or feel they need to bypass, but not ensuring the message is what is intended is suicidal.</td>
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</tbody>
</table>
6. Distribute communication materials. Use the plan to distribute what is planned to those intended by the means necessary. There was a plan for a reason.

Risk reduction by improvement and maintenance of a System focuses on two areas naturally. The first is that of Quality Assurance/Quality Improvement/Process Improvement (PI) for the System. For process of the resolution of PI concerns, the Department Concern Resolution Process flow chart was analyzed (Appendix A). Imbedded in the flow was the ability for the fire departments to resolve issues internally and just report the results to the EMS Manager and Medical Director or they can escalate the concern at any point for assistance in resolution (L. Bedrich, personal communication, August 15, 2007).

From the presentation standpoint, PI issues may be brought forward in a variety of ways. Ultimately there are two categories: internal and external. In the hospital system, internally found issues would be those identified by the run review process established within each individual agency, within the required CQI Committee Quality Management Report (Appendix B), during credentialing or educational opportunities and within the run report audits performed by the EMS Medical Director (L. Bedrich, personal communication, August 15, 2007). The process of putting together the Quality Management Report includes individual chart audits by Field Trainers identified by the fire department and trained by the EMS Medical Control staff. They use a System Documentation Standard (Appendix C) as a template for these reviews, which also acts as a listing for all of the outliers. Any call that falls outside of the “Standard” may be requested for review by the EMS Manager or Medical Director (L. Bedrich, personal communication, August 15, 2007). These forms provide specific call triggers to track and to trigger EMS Manager or Medical Director audits. This simplifies the review process and allows the ability to trend the data more meaningfully.
External concerns, the second category of PI issue, can also come from several sources (L. Bedrich, personal communication, August 15, 2002). They could come from solicited feedback from patient or ED personnel surveys. Additionally it may come from phone calls, either from patients or from providers at any point in the patient-care continuum. The hospital system used an EMS Quality Concern Form (Appendix D) that asks for basic contact information and sets the expectation for its use. In Texas, where this group is located, there are protections for information used in this type of process and the proceedings involved (L. Bedrich, personal communication, 2002). The law providing this protection is included on the bottom of this form (Appendix D).

A common proceeding that may occur in the flow charts is a meeting of some type. Any meeting that includes a discussion of a case under review required in the hospital system the signing of a PI Roster (Appendix E). This roster documents the proceeding meeting the requirements of confidentiality as required by the State and reinforces the seriousness to those attending (L. Bedrich, personal communication, 2007).

*Summary of Review*

Much of the literature review was to establish the requirements for the future system by understanding the systems that were in place in the successful hospital system. An analysis of the legal requirements in the Texas Administrative Code related to EMS providers and their medical directors provided a list of items to ensure compliance with state regulations.

To assist with the development of a system that supported the needs of all partners that chose to participate, references related to strategic planning and EMS system design provided guidelines. These ideas were additionally bolstered with personal communication provided by system leaders in both the hospital and the proposed new medical control groups.
A review of the tools that were in place for risk reduction through performance improvement, along with a comparison to the most current EMS quality ideas, were made to determine whether the hospital system’s PI process would be desirable for the new medical control group. The tools identified in this review would be used to help with the transition requirements caused by the hospital’s withdrawal.

Procedures

Procedures for this Applied Research Project (ARP) included legislative and literature review, personal interviews and the evaluation of customized tools to support the desired results.

To begin the process, the legislative review and interviews with the hospital’s EMS Manager provided a clear understanding of the legal responsibilities for EMS systems. These requirements were managed as a check list during the decision process to ensure that the ideas developed met the fundamental requirements. Responsibilities for each of these requirements would be covered by the group and approved by the Medical Director.

The group then used the processes identified in the literature review from Barksdale and Lund for strategic planning (2002). Using the “Identifying Planning Advocates” the chiefs realized they were not including personnel at the EMS receiving facilities – an integral part of an EMS systems success. This also served as a reminder of the assurance that there would be a chief level officer from each of the agencies pursuing the Denton County group idea with FMFD. These leaders were subsequently involved with the selection of the EMS Chief/EMS Manager for the FMFD, a critical component for the buy-in of these departments to what would be named the South Denton County Medical Control (SDCMC). These chiefs were also interviewed in areas relating to strategy, tactics, description of the current environment and expected results by the FMFD Assistant Chief as well as the new EMS Chief when hired. When the plans were
presented in following strategy sessions, these questions were used to validate what was learned from the interviews.

Formal and informal meetings were held to discuss the possibilities in sustaining the System’s advantages with the chiefs. They felt that the diversity in this system could be leveraged for the greater good, as FMFD has about sixty five FD employees and multiple stations, and another department staffs only with part-timers and volunteers. Including these considerations would strengthen the organization from top to bottom.

The strategic meeting for defining the mission of the group was next. This group had worked together before on many occasions, and the leaders already had buy-in to cultural change. In addition, the group was familiar enough to the brainstorming process that the sessions, which were scheduled informally, were productive in developing ideas for the new system.

It was determined by the Flower Mound Assistant Chief leading the transition to use a change model such as that first described by Kurt Lewin (Levesseur, 2001, pp. 71-73). The idea of first “unfreezing” the current state of management in the System, followed by the “change,” and then concluded by a “refreezing” process made sense. The plan was that the unfreezing would take place during the presentation of the hospital’s message regarding the elimination of the EMS medical control service line. The FMFD Chief coordinated with the hospital EMS Manager to carefully lead discussions regarding some of the major issues. Because all of the Medical Director’s fire department providers attended this meeting, there was an opportunity to ensure that there was continuity in the change process to build this medical control system’s capacity for weathering the turbulence of change (Holman and Devane, 1999, p. 5). The major issues identified and presented to create an atmosphere that would allow change to occur
centered around what was needed to manage the transition and ultimately create a more efficient and effective medical control organization.

Based on these meetings, the following messages were developed using Barksdale and Lund’s guidelines:

1. Determine key messages. The key information was that Dr. Ansohn was remaining as the medical director for the members of the SDCMC group. All personnel that had participated before were considered credentialed, and the State felt the transition was just a paperwork change.

2. Determine your audiences and identify the messages they should receive. The Chiefs were given specifics on the financial aspects of the change. Billing was more complicated because of the college requirements for registration, so this was all explained to the Chiefs. However the message to personnel was simpler; they should not notice any change, even when they take patients to the facility that had sponsored the previous medical control group.

3. Identify communication points and establish a communication timetable. Periodic emails were crafted by the leadership based upon timing, the audience and the messages. There was concern that information given too soon would create a situation where rumors would be rampant, so information was timely and timed.

4. Gather resources to support communication and information distribution. Current staff from the hospital assisted the physician and the FMFD Assistant Chief in producing the messages, while the hospital EMS Manager assisted in distribution.

5. Develop and pilot Materials were screened by the Manager and the Assistant
materials. Chief as well as the Medical Director to ensure the content met the intent.

6. Distribute communication materials.
   The change management plan put in place by the hospital EMS Manager was followed.

The Performance Improvement model presented in the Literature Review was taken in total to be used by the SDCMC group (Appendices A through E). This was a component of the hospital system that was well recognized as being comprehensive and respected, so it was important to take that process forward for continuity and credibility.

Around the end of the planning meetings, the FMFD selected the new EMS Chief with the input of the stakeholders of the new system including representatives from all of the departments who had agreed to participate as well as from the local college and the Medical Director. The FMFD Assistant Chief, the FMFD EMS Chief functioning also as the EMS Manager and the EMS Medical Director now began to lead the transitional effort to the new South Denton County Medical Control.

Results

The literature procedures identified that by ensuring the basic functions of the hospital’s medical control function were met, the new EMS system would be in compliance. Many of the efforts of this group were developed and steered by the experienced EMS Manager and the fire department EMS Chief Officers in cooperation with the Medical Director. These efforts had been recognized with awards going to various individuals in the system, so sustainment would be a good way to ensure continuity in quality and in the confidence of the providers.

1. What services were provided by the hospital that needed sustainment for the medical control mission of the fire department?
There were requirements established by several different groups; some based on legal issues and some based in past experiences. Legally, the new system needed to ensure that the Medical Director had support for credentialing of all personnel, establishing and monitoring field performance guidelines, establishing and monitoring the education and training guidelines to Texas Department of State Health Services (DSHS) certification regulations, managing the standard delegation orders for system pre-hospital care and directing an effective performance improvement program.

Additional responsibilities to support the Medical Director would include helping him in his liaison role with the local medical community, ensuring that an appropriate legal agreement is in place for the physician/provider relationship including compensation, monitoring and leading situations involving personnel remedial or corrective measures including suspension, and managing issues regarding patient transportation and complaints (TAC, 2007, Title 22, Part 9, Rule 197.3).

The system would need to provide support to the providers to cover their responsibilities related to protocol support and in-house documentation for their personnel credentialing and education. Additionally, support is sometimes needed for renewals of required permits and licenses such as those for controlled substances, laboratory waivers, provider licenses and educational program permits.

Finally, it was generally agreed through interviews with the potential participant agencies (a survey was not done because the sample was statistically too small) (Appendix F) that the system had responsibilities for its own success. These goals were to ensure continuity of the level of prehospital care for the participant agencies, to ensure continuity during the transitional period for credentialing of personnel, to ensure continuity of EMS continuing education through
a common provider for all of the Medical Director’s agencies, to ensure that each member department of any size would continue to have the resources needed to sustain the current level of care in their community, to ensure that the Medical Director would have the insurance and financial support to maintain his role for the agencies that wanted to remain under his medical oversight and to attempt to accomplish these goals with minimal financial impact to the communities involved.

2. **What are the options for providing these services?**

The options varied for each of the needed components. First the decision would be whether or not to stay with the current Medical Director for physician oversight. If an agency chose to change, they would have to research the options in the area which were varied based upon the other services packaged with the medical direction component. All of his current agencies chose to remain with him.

By remaining with him, these departments were acknowledging that they would need to contract with the local county college for EMS continuing education. For the Tarrant County departments, they could do this without remaining a part of a group if the physician approved. Four of these departments chose to proceed as independent medical control departments. The remaining departments located in the neighboring Denton County would need to find a solution that would allow them to maintain a relationship with the college. The solutions were to contract with one of the departments located in Tarrant County (none of those departments were interested in supporting other agencies), to contract directly with the physician who would contract with the college (he lives in Tarrant County) or to contract with a Denton County department that was willing to contract with the physician and handle the administrative details outlined in question one.
3. What tools can be adapted to assist the agencies mitigate EMS risk throughout the change?

The most valuable tools were acknowledged to be the performance improvement process tools that had been developed by the EMS Manager, Medical Director and fire department leadership in the hospital medical control system. Because the hospital would no longer be providing these services, and the physician’s in Texas are independent contractors rather than hospital employees, the EMS Manager who was hired as the EMS Chief would be able to incorporate these tools into the new SDCMC system.

In addition, it would be advantageous to continue to investigate additional processes to engineer system stability into what is currently a manual performance improvement process. The ultimate goal, as emphasized in the literature review, would be immediate, electronic capture of data for trending and loop closure. However in the interim, additional system support tools would be helpful.

4. Is it appropriate to the mission of the Flower Mound Fire Department to step forward and manage a regional medical control for area fire department EMS providers?

The Flower Mound Fire Department mission is to "protect life and property and fulfill the needs and expectations of our community by providing the highest quality Fire Suppression, Emergency Medical, Rescue, Fire Prevention, and Emergency Management Services" (www.flower-mound.com). While the FMFD could just provide medical control services only for their own Town, the reality is that the “community” encompasses many of the neighboring agencies that were losing medical direction from the hospital. These departments already give and receive routine mutual aid; by working together to support them the Town of Flower Mound ensures that the standard of EMS care across the area is consistent.
Discussion

The research-based change management initiated by the leadership of this medical control system provided a successful transition to the new vision of what the organization should be. The consequence of this change has been that there is a renewed commitment by the member agencies to the System, and assurances of their continued participation at appropriate levels. The proposed Clinical Steering Committee (CSC) by the EMS Chief candidate was actually implemented with representation from field providers in all of the participant departments. This CSC has completely reviewed each protocol in detail, and has enacted several new procedural and treatment protocols based upon new scientific research. This has resulted in the recent release of an entirely new, more aggressive medical treatment protocol for the system. The CSC is also drafting new lesson plans for the field training officer/preceptor curriculum, and is overseeing the development of a new credentialing examination and skills verification processes.

These changes all combine to produce the desired result of a responsive leadership group that continues to identify and provide the necessary resources to meet the EMS Mission of each of the member fire departments. Consequentially, the additional benefit is that now the framework continues in place as circumstances and even leadership changes in the group. This will ensure that the new South Denton County Medical Control System remains responsive for years to come, and would assist other regional groups of EMS providers to find a cooperative solution to the complex issues of medical oversight.

The change process that was researched and implemented by the leadership of this medical control system is not at all complete. An organizational facelift was completed, and the results of that initiative are becoming apparent. In his book *Organizational Culture and Leadership* (2001), Schein states “what makes it possible for people to function comfortably with
each other…is a high degree of consensus on the management of issues…” (pp. 92-93). The SDCMC System functions “comfortably” because this is an organization with a common culture and resulting consensus. This was due to an early agreement on what was truly important to the entire community; how to get there was not nearly as complicated.

However, everything surrounding and impacting this System is changing every day. All of these ideas point the need to continue to look at the System with a strategic eye to proactively manage system change. The process is in place to continue this effort, and with continued efforts by the System leadership, there will be continued success.

**Recommendations**

The recommendation for the Flower Mound Fire Department is to continue to support the neighboring communities as the regional medical control manager as long as possible. Some of these towns are growing at such a rapid pace, that they may grow into being independent if an alternate educational solution is presented. However, the synergy that occurs with the varied approaches of these different agencies helps FMFD become more risk tolerant.

Another recommendation would be to strengthen the impact of the Clinical Steering Committee; it is a good idea for a system of this size to not try to compartmentalize each effort into separate committees. Education works with the protocols and both are driven by performance improvement. By having one committee to emphasize everything clinically related, there is strength in the output both from a content and a buy-in perspective. This committee should be kept busy to keep it focused and relevant.

Finally, the system should continue to strive for better ways to manage performance. It is difficult to do much more with a manual quality process, but it can always be improved. EMS as a profession is becoming more of a science, so the opportunity to be efficient with changes and
measurements is greater than ever. By doing this, the Flower Mound Fire Department can continue to be considered a leader in EMS in the state, and attaining the mission of fulfilling the “needs and expectations of the community” with quality care will be successful.
References


Appendix A

Baylor EMS Medical Control Departmental Concern Resolution Process

Issue Registered with Medical Control Office using Concern Form and Log

EMS Chief Officer

Level 1 System Concern
Resolved by EMS Chief Officer only

Feedback to complainant

Level 2 System Concern
Resolved by EMS Chief Officer with input from others

Feedback to complainant

Level 3 System Concern
Referred to Departmental CQI standing committee

Personnel issue?

If Yes, referred to Department's Human Resources per Department Policy/Guidelines

If No, investigated by Departmental CQI Committee; preliminary report to EMS Manager/Medical Director

Fact Finding Discussion
Action Plans established

If not effective, referred to System CQI Committee per that process.

Evaluate effectiveness?

If effective, feedback to complainant and reported to System CQI Committee and included in QI trending for System.
CQI Committee Quality Management Report
This form is not a permanent part of the medical record.

Month: ______________ Year: ___________ Agency: _______________

Aspect of Care: Risk Management/Safety

Standard of Care: The patient can expect appropriate assessment/management of said condition.

Standard of Practice: The paramedic will comply with protocol & CQI guidelines.

<table>
<thead>
<tr>
<th>Rationale:</th>
<th>Problem Prone/High Volume</th>
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<tbody>
<tr>
<td>Indicator</td>
<td># Of Cases Reviewed</td>
</tr>
<tr>
<td>Cardiac</td>
<td></td>
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<tr>
<td>Medical</td>
<td></td>
</tr>
<tr>
<td>Medication Administration</td>
<td></td>
</tr>
<tr>
<td>Pediatric</td>
<td></td>
</tr>
<tr>
<td>Patient Refusal</td>
<td></td>
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<tr>
<td>Trauma</td>
<td></td>
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<tr>
<td>Adverse Incident Sentinel Event Clinical Complaint</td>
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</tbody>
</table>

**Corrective Action Codes:**

1. Discussed with Individual
2. Referred to Supervisor
3. Referred to Medical Control
4. Departmental Policy Changed
5. Protocol Review/Changed

Signature of CQI Officer: ____________________________________________________________
Appendix C

This is not a permanent part of the medical record.

System Documentation Standard

Provider Name: _____________________________ Chart Number: ________________ Date: _____________

Any deviation requires an explanation. Use the back if necessary. Any unexplainable event, or one in which patient care is at risk, should be immediately referred to the Department’s EMS Chief Officer.

<table>
<thead>
<tr>
<th></th>
<th>Patient Care and Reporting Standard</th>
<th>FTO/FTP/CQI Officer Comments</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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<tbody>
<tr>
<td>A</td>
<td>Provides and documents clinical impression and protocol(s) used during call.</td>
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<tr>
<td>B</td>
<td>Obtains and documents patient history and chief complaint. Assesses and documents vitals signs per protocol throughout call.</td>
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<td>C</td>
<td>Provides and documents appropriate airway control and oxygen therapy per protocol.</td>
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<td>D</td>
<td>Provides and documents continuous cardiac monitoring with correct interpretation.</td>
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<td>E</td>
<td>Assesses and documents status of all body systems as appropriate per protocol.</td>
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<td>F</td>
<td>Provides IV and appropriate drug therapy per protocol. Documents all relevant information.</td>
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<td>G</td>
<td>Assesses and documents patient condition after any treatment. (Signs and symptoms)</td>
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<td>H</td>
<td>Contacts Medical Control when required.</td>
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<tr>
<td>I</td>
<td>Reassesses and documents patient condition at receiving facility per protocol.</td>
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<tr>
<td>J</td>
<td>Treats Patient in compliance with protocol(s). (Including minor transport authorization)</td>
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<tr>
<th></th>
<th>No Transport Standard</th>
<th>FTO/FTP/CQI Officer Comments</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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<tr>
<td>A</td>
<td>Assesses and documents patient alertness and orientation to person, place, time, and event.</td>
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<td>B</td>
<td>Informs the patient of the findings, the potential seriousness of injuries and/or medical condition and the risk of not receiving treatment and/or transportation; documents this conversation.</td>
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<tr>
<td>C</td>
<td>Obtains what specific care and treatment is refused and the reason why patient refuses treatment and/or transportation; documents this conversation.</td>
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<td>D</td>
<td>Obtains signature of patient or guardian, witnesses and personnel as appropriate, and documents any reason for inability to obtain signatures.</td>
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FTO/CQI Officer Signature: ________________________________ Print Last Name: __________________

Date Reviewed: _______ O-Send immediately to EMS CO O-Sentinel Event O-System Review O-See back
EMS QUALITY CONCERN FORM

PURPOSE: To provide a consistent method for addressing Baylor EMS Medical Control system issues.

INSTRUCTIONS: Complete this form and submit directly to either Dr. John Ansohn - the EMS Medical Director, Leigh Anne Bedrich - the EMS Manager, or the SQI Committee Chair, Chief Scott Parsley. It can also be completed by phone. Contact any staff member in the EMS office for assistance at 817-329-2815 or email at leighb@baylorhealth.edu.

GROUP INVOLVED:

__________________________________________________________________________

ISSUE/CONCERN: (Summarize briefly; you will be contacted for further details.)

__________________________________________________________________________

ANY ADDITIONAL ENTITIES, USEFUL CONTACTS REGARDING THE RESOLUTION OF THIS ISSUE:

__________________________________________________________________________

__________________________________________________________________________

Person submitting concern:

Name: _______________________ Agency: ________________________________

Contact information: ___________________________________________________

Date: __________ If by phone, staff person completing form: ________________

Referred to: __________________________ Date: ____________________________

CONFIDENTIALITY

Committee members engaged in medical care review have protection from disclosure of proceedings under Section 773.095 Records of Proceedings Confidential of the Texas Health and Safety Code. All information and materials provided and/or presented during the meeting are strictly confidential. Persons who attend the meeting will be required to sign a Statement of Confidentiality.
## PI ROSTER

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<td>Committee Chair:</td>
<td>EMS Coordinator:</td>
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The following were individuals and their roles related to this ARP who participated in interviews between April 1, 2007 and September 1, 2007.

L. Bedrich  Baylor Regional Medical Center  EMS Manager
          Flower Mound Fire Department  Battalion Chief, EMS

B. Crawford  Watauga DPS *  Director of Public Safety

M. Duncan  Roanoke Fire Department  Fire Chief

R. Finn  Southlake DPS *  Fire Chief

M. Hohenburger  Argyle Fire Department  Fire Chief

C. Jones  Grapevine Fire Department *  Assistant Fire Chief

T. Mills  Krum Fire Department  Fire Chief

R. Morris  Baylor Regional Medical Center  Vice President, Operations

R. Shelley  Colleyville Fire Department *  Battalion Chief

D. Thomas  Trophy Club DPS  Director of Public Safety

D. Wilson  Westlake DPS  Director of Public Safety

* Departments marked with an asterisk chose to remain independent contractors with the EMS Medical Director.

Note: All departments that were part of the hospital medical control system are represented in this list.