

**S.B. 523:
Emergency Medical Services
Dispatch Resource Center
Pilot Project**

Report to the Texas Legislature

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With support from

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City of Lufkin (Angelina County) Emergency Communication Center

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Table of Contents	Page
Executive Summary	2
Anyplace Anytime: Potential Texas Emergency Dispatch Resource Center	3
Legislative Charge	4
Introduction.....	5
Background Discussion on Rural Emergency Medical Services.....	6
Description of the Pilot Project.....	12
Analysis of Results	16
Findings.....	17
Recommendations	19
Summary	20
Appendix A - Glossary of Acronyms.....	21
Appendix B - What is MPDS™?.....	22
Appendix C - Medical Priority Dispatch System – 32 Protocol.....	24
Appendix D – Sample Supervisor’s Quality Improvement Evaluation for an Individual Dispatcher – Medical Case Evaluation Record	25
Appendix E - Quality Improvement Report for All 400 Cases	26
Appendix F - Determinant Drift Report.....	27
Appendix G - Training and Credentialing of EMS Workers.....	28
Appendix H - Map: State of Texas Counties, Regional Planning Commissions, Emergency Communications Districts and 9-1-1 Home Rule Municipalities	30
Appendix I - Letters of Support and Testimonies	31

Executive Summary

Senate Bill 523, passed by the 79th Legislature, directed the Area Health Education Center (AHEC) of the University of Texas Medical Branch (UTMB), to establish a pilot program to test the efficacy of using emergency medical dispatchers located in a regional dispatch resource center to provide life saving and other emergency medical instructions to persons who need guidance while awaiting the arrival of emergency medical personnel.

The East Texas Area Health Education Center undertook planning, development, implementation and evaluation of the emergency medical services dispatch resource center pilot program. An advisory group consisting of a representative of the EMS Advisory Council and leaders from the Texas EMS field were convened to participate in planning. A project team was composed of AHEC and EMS field staff from the participating sites. The Emergency Medical Dispatch Resource Center Pilot was activated once planning, technical accommodations and training were completed. The actual pilot ran from late June 2006, into September 2006, and ended with 400 transferred calls handled at the pilot dispatch resource center site operated by the Montgomery County Hospital District EMS Dispatch Center. Local 911 public safety answering points in Lufkin, Gatesville, and Jacksboro participated. The pilot was evaluated with internationally adopted, standardized quality improvement guidelines commonly used by state-of-the-art technology-supported dispatch centers, as well as by review of the project team and advisory group.

This report was prepared by East Texas AHEC staff with input, review, and comment by the project team and advisory group. The report provides a bill summary, discussion of basic assumptions, and considerations by the advisory group in its planning. A description of the EMS system in the state is provided. An analysis of the pilot itself summarizes the details generated by the quality improvement and descriptive summary data. Findings are listed. The findings were generated from the background discussions of the advisory group and project team, as well as information gathered from others in the Texas EMS field. The findings relate to EMS service delivery functions, data describing EMS in Texas, and the experience of the pilot.

Recommendations noted below are derived from the work of all those who participated in the pilot project, including the background work, pilot experience, and the findings.

The pilot project was summarized on November 20, 2006, in a presentation to the Governor's EMS and Trauma Advisory Council meeting (see Appendix I for letter).

Recommendations

1. Establish a network of regional Emergency Medical Dispatch Resource Centers.
 - EMDR Centers should be staffed by certified EMDs for the purpose of providing technology-supported, post-dispatch call assessment and evidence-based, quality tested pre-arrival instruction protocols to support PSAPs unable to provide caller support by certified EMS dispatchers due to lower operational scale, fiscal or other constraints.
2. Collect, analyze, and maintain ongoing data from which reports can be generated describing EMS in Texas in quantitative and qualitative terms, and that also serve as the basis for quality improvement activities.
 - Information should be available to: periodically review and refine the delivery of emergency medical services; the preparation and qualifications of individuals and organizations providing emergency medical services; and to describe in geographic terms the nature and extent of services available for emergency medical response.
3. Systematize qualifications for dispatchers providing emergency medical dispatch services.
 - Minimum standard qualifications for dispatchers providing emergency medical dispatch assure a basic standard of service in all PSAPs. This is especially relevant in PSAPs that do not differentiate law enforcement, fire, and emergency medical response functions. Advanced medical dispatcher qualifications should be required for PSAPs at higher operational levels.
4. Establish a registry for individuals obtaining and maintaining qualification as an EMT-I, EMT-II, EMT-Paramedic, EMD, or certified EMD.
 - Especially given heightened concern for readiness and response in the event of catastrophic event, the identity, location, and currency of qualification of individuals comprising Texas' emergency medical response system capability are unknown to the state. According to the National Academy of Emergency Dispatch (NAED), there have been approximately 5,222 individuals that have taken the class and are, or have been trained and certified at one time or another as an EMD in Texas. According to NAED there are currently 1,934 certified EMD's in the State of Texas. This is for the Priority Dispatch System Only.
5. Establish minimum standards for, and support achievement of minimum required proficiencies for local first responders and emergency medical response equipment.
 - Variability still enables a wide range of proficiency in the patchwork that comprises the state emergency medical response system.
6. Clarify hold-harmless provisions for dispatchers providing emergency medical dispatch services in order to limit personal and professional liability.
 - Reluctance to provide emergency medical support is reported among the dispatch community due to lack of clarity on the extent of liability for such interactions.

Any place, any time: What difference can an EMS Dispatch Resource Center make?

Everything was just right for a day out of school in very rural Robertson County, Central Texas, and 14 year old Jared was miffed that his mother made him watch his little brother while she ran errands. His 3 year old brother, Bobby, was a pest and he had other things he wanted to do. All in all, though, Bobby had been OK. So Jared rewarded him by fixing lunch of hot dogs, chips, and sodas, and pulling him in his wagon down to the creek at the back of the house. Bobby loved hot dogs and would take several bites before he chewed any food, stuffing his cheeks with bites of frankfurters like a chipmunk. Jared was tossing stones into the creek when he heard a gasping sound. He turned to see Bobby trying to draw a breath. Running over to Bobby he jerked him up from the blanket by his arms. Bobby coughed some food out of his mouth, but then took a deep breath and started choking again. Jared scooped Bobby up and ran up the slope to the back porch and into the house. Jared grabbed the house phone and dialed 9-1-1, connecting with the sheriff's dispatcher in Hearne, TX, approximately 25 miles away including 5 unimproved rural road miles. When the dispatcher answered he shouted that his little brother was choking to death. The dispatcher worked to calm Jared, assessed the situation and determined the location. She immediately dispatched EMS from Hearne and turned the call over to Central Texas Emergency Dispatch Regional Resource Center located in Austin. The Certified Emergency Medical Dispatcher (EMD) at the Resource Center followed the national standard protocol to assess the medical situation from Jared. In response to the EMD protocol queries, Jared reported that Bobby was limp and not breathing, but not turning blue. The EMD assured Jared by stating "Jared, we can do this together, I am here with you. You and I are going to do everything we can, until

This story is a fictional account. Texas does NOT have a Regional Emergency Medical Dispatch Resource Center system in place.

the ambulance arrives." Jared said "OK, what do I do, what do I do!" The EMD instructed Jared "set the phone down, do not hang it up, go and bring your little brother as close to the phone as possible, go do it now." Using the EMD protocol the EMD was able to instruct Jared in assessing Bobby's level of consciousness. "He looks like he is sleeping," Jared told the EMD. The EMD immediately began administering the choking instructions to Jared. "Jared, I want you to make sure that Bobby is lying face up on the floor" the EMD instructed. When Jared said he had done this the EMD continued "Jared I want you to straddle Bobby's hips with your legs. Now place your hands, one on top of the other, onto his stomach, just above his belly button. Do you understand me so far?" the EMD asked. "Yes" answered Bobby. "Good Jared, now in one motion, push quickly into his stomach. Keep doing it until he can breathe." Jared said "I think it came out." The EMD asked "Can he breathe at all?" Jared said "Yes." The EMD monitored Bobby's condition by asking Jared various questions about Bobby's symptoms and actions. She directed Jared on other actions to perform to reassure and stabilize Bobby during the lengthy wait for Emergency Medical Services (EMS) personnel.

The EMS reached Bobby 34 minutes after Jared's call was logged. They found Bobby to be alert and crying, and were quickly able to stabilize him and administer appropriate medical treatment. It was later determined that Jared's quick response to the EMD's directions to correctly administer the Heimlich Maneuver provided 'zero response time' and had prevented Bobby from possibly choking to death. The Emergency Medical Dispatch Resource Center EMD and Jared helped save Bobby's life.

Legislative Charge

Senate Bill 523, passed by the 79th Legislature, directed the Area Health Education Center (AHEC) of the University of Texas Medical Branch (UTMB), to establish a pilot program to test the efficacy of using emergency medical dispatchers located in a regional dispatch resource center to provide life saving and other emergency medical instructions to persons who need guidance while awaiting the arrival of emergency medical personnel. The purpose of the regional emergency medical dispatch resource center was not to dispatch personnel or equipment resources but to serve as a resource to provide pre-arrival instructions that may be accessed by selected public safety answering points that are not adequately staffed or funded to provide those services.

The bill advised AHEC to be assisted by the Emergency Medical Services Advisory Council in developing the demonstration. AHEC was instructed to:

- design criteria and protocols and provide oversight as needed to conduct the pilot program;
- collect the necessary data to evaluate the outcome of the pilot program; and
- report its findings to the Legislature.

The bill further directed AHEC to select program participants and regional emergency medical dispatch resource centers that included these criteria for the resource center:

- have a fully functional quality assurance program that measures each emergency medical dispatcher's compliance with the medical protocol;
- have dispatch personnel who meet the requirements for emergency medical dispatcher or the equivalent as determined by the Department of State Health Services;
- use emergency medical dispatch protocols approved by a physician medical director knowledgeable in emergency medical dispatch;
- have sufficient experience in providing pre-arrival instructions; and
- have sufficient resources to handle the additional workload and responsibilities of the pilot program
- keep records and produce reports to measure the effectiveness of the pilot program

The operations of the regional emergency medical dispatch resource center are considered to be the provision of 9-1-1 services for purposes of Section 771.053. Employees of and volunteers at the center have the same protection from liability as a member of the governing body of a public agency under Section 771.053.

In accordance with the Bill directives, a work group was appointed for the pilot program to assist with developing, implementing, and evaluating the project and preparing a report on the project findings.

AHEC was permitted by the Bill to seek other funding for the project via grants or pay for services by political subdivisions in a region. Neither of these strategies was utilized as the project was able to be completed within the funds provided by the appropriations from the 9-1-1 Services Fee Fund. The Bill instructed AHEC to biennially report findings to the Governor, presiding officer of each chamber of the Legislature and the EMS Advisory Council.

Introduction

Senate Bill 523 was well-known to the Texas emergency medical services community because it was the third iteration of the bill to be passed. The 77th Legislature passed essentially the same bill in its session, but did not appropriate funds for the Texas Department of Health to be able to carry out the directive. The 78th Legislature passed a similar bill, with funding, to be carried out through the Texas Department of State Health Services (DSHS). Unfortunately, lack of clarity regarding the hold-harmless status of participants inhibited establishment of the pilot, as did agency restructuring of DSHS that obligated a higher priority for the staff charged with the pilot project, ultimately preventing its implementation.

The 79th Legislature's action to again pass the bill with technical adjustments was strongly supported in the EMS community and among advocates for stronger rural health care infrastructure. The purpose of the enactment was to explore the efficacy of professionally-provided pre-arrival/post-dispatch instructions for the caller in a 9-1-1 situation where care rendered might make a difference in morbidity or mortality of victims with illness or injury, especially in situations with delayed response times due to distance or other conditions.

It has been documented by peer-reviewed research that on-phone support for the caller on the scene with the victim may help the outcome for the victim. Both quantitative and qualitative assessment was anticipated to be required to answer the question. It was not enough to be able to say that a life was saved because of the EMS Dispatch Resource Center's pre-arrival instructions. Just attempting to determine the answer to that simple question is complicated by the chain of care provided by EMS and the local healthcare facility. Record systems transition at the patient "hand-off," and patient confidentiality rules imposed by federal HIPAA regulations make outcome determinations difficult when the effect of pre-arrival instructions and care is ultimately determined at the hospital, beyond the EMS care timeframe. EMS quality assurance systems are able to provide details regarding the interaction of the dispatcher with the caller, and provide indications of the outcome, but do not always specify enough detail to define the victim outcome, since follow up information to EMS on the victim is rare. Qualitative reports, the stories generated by the event, also amplify the outcomes of interaction among dispatcher, caller, and first responder, as well as subsequent care of the victim by additional healthcare professionals. As one EMS director not actively participating in the Pilot Project discussed with project staff, it is also very important that the caller is provided proper support to do everything reasonable for the care of the victim to prevent themselves from being victimized by self-doubt and recrimination at not rendering proper aid to the victim under their care, especially if the outcome is undesirable for the original ill or injured party.

Perhaps of more significance, the Pilot Project has the opportunity to demonstrate the extent to which technology-supported, telephone-based instructions provided by trained EMS dispatchers can be effectively delivered, within internationally tested and proven standards of care, as an initial step in addressing the emergency needs of illness and injury victims, irrespective of their geographic proximity to the scene. This enables a level of dispatch support care not realistic for those who do not have the volume to maintain skill proficiency and a comprehensive quality improvement program

Background Discussion on Emergency Medical Services

Nationally coordinated and regulated Emergency Medical Services (EMS) are a relatively new, increasingly vital component of the US healthcare system. Until the early '70s, emergency medical response consisted of unregulated ambulance services provided primarily by morticians. A lone medically untrained ambulance driver/attendant would load and transport the patient to the hospital. No assessment or care was provided to the patient until admission, and no communication of status was provided to hospital staff. There was no 9-1-1 standard emergency telephone system until the mid-70s. Vast distances, geographic limitations and undeveloped roads in rural areas challenged timely response.

The need for responsive emergency medical systems was recognized, but was addressed and implemented under various local jurisdictions. Local EMS entities were totally independent of one another, usually with no collaboration. Standards for training, protocols for procedures, and standards for vehicles or equipment were non-existent. Each local jurisdiction had its own emergency telephone number, and pinpointing precise physical location was still a major issue in rural areas. Jurisdictional emergency response created a new complication. Emergency response was on hold until it could be determined which EMS entity had jurisdiction to respond.

Not an integral part of the public health system, yet not entirely a part of the public safety system, EMS required guidance and development. That guidance came in the form of military expertise in trauma care and procedures, Robert Wood Johnson Foundation funding of \$15 million to develop regionalized EMS in 44 sites, and the Emergency Medical Services Systems Act of 1973. Coupled with public recognition and demand for emergency services, these initiatives guided the creation of standards for trauma care and training, and the collaboration and networking of healthcare facilities and EMS entities to establish a national EMS System.

Today, the EMT/Paramedic first responder is widely considered to be an integral part of the healthcare system as a highly trained individual with all the current knowledge, skills and confidence necessary to respond to emergencies and provide basic care and transport of victims to healthcare facilities. See Appendix C - Credentialing of ECA/EMT/Paramedic.

However, the standard and quality of care are not the only determinants for a successful EMS response. In rural areas of Texas, vast distances, geographic challenges, road conditions and weather significantly affect EMS response. An additional complicating factor is the fact that the residents of Texas are not the only clients requiring EMS services. Because of its premier economic development climate, and the fact that it is one of the top leisure destinations in the United States, Texas has an extremely high volume of domestic and international business and leisure travelers. Rural areas are significantly affected by increases in business and leisure visitors. Texas State Parks, Big Bend National Park, and Texas beaches are always among the 141.7 million domestic and 6.7 million international leisure trips to Texas destinations (2004). Most of these and other popular destinations are in rural, often remote, locations. Rural recreational water, camping, sports, hunting, fishing and other related activities draw large tourist populations. The inherent nature of these activities often places people at risk, requiring that additional EMS be provided, placing significant demands on already maximized services.

Rural EMS services are a vital part of the rural health care infrastructure that serves not just those living in the rural area, but also those who travel through, visit in, and seek recreation in rural Texas!

Modern, technically current EMS dispatch systems of today offer the trained dispatcher a sophisticated computer-based algorithm that enables the dispatcher to analyze the nature of the call, the condition of the victim, and the necessity of an emergency response that can be dispatched instantaneously. Additionally, the call may meet criteria for additional pre-arrival instructions to assist the caller with management of the victim in anticipation of the arrival of trained EMS personnel. Technology-based dispatch systems also incorporate quality assurance measures which are routinely reviewed for quality assessment and quality improvement interventions for dispatchers, responders, and the system itself. These intelligent technology-based dispatch systems support the dispatcher with a set of well-researched scripted questions and responses (protocols) that assist the on-the-scene caller with life-saving instructions. Dispatcher training is critical to effectiveness, and includes training in the use of communications equipment and protocols. To ensure that on-going training is effective, the advanced technology-based dispatch systems include quality improvement (QI) assessment measures with statistically significant benchmarks and markers that guide improvement of performance. To foster maximum effectiveness, the QI elements identify dispatcher behavior that results in underutilization of resources that can negatively impact patient outcomes and over-utilization of resources that are not cost-effective and do not impact patient outcomes. Furthermore, the QI elements meet the National Association of Emergency Medical Service Providers and the National Institute of Health positions on standards for scripted dispatch instructions for the on-the-scene caller and specialized dispatch training. These reliable dispatch systems are recognized nationally and internationally by the industry to be effective strategies for improving pre-hospitalization emergency care.

Texas' EMS infrastructure, and especially the rural EMS infrastructure, is a complex patchwork quilt. Urban settings usually have well-developed technology-based dispatch systems staffed by trained dispatchers. Rural EMS infrastructure usually results from the well-intentioned efforts of dedicated local individuals who are compelled to work with a wide range of conditions to create a response system defined by availability of local resources, including personnel, equipment, training, administrative hierarchy and leadership interest. This engenders a wide range of technical sophistication, administrative proficiency, and basic service effectiveness.

Rural EMS systems range from the use of a minimally trained individual who answers the phone and dispatches a first responder for any request, to fully trained dispatchers who use computer-based algorithms and patient care protocols to assess the call and specifically dispatch emergency care providers.

Rural EMS and 9-1-1 program systems are funded through mechanisms that combine local, state, and federal dollars. They are somewhat dependent upon local agency proficiency in defining and representing their needs. EMS equipment funding is provided through an Emergency Service District (ESD) if the EMS entity is located within an ESD jurisdiction. Many rural areas are not in an ESD, and rely on local volunteer efforts and fundraising campaigns to raise money for their

equipment. 9-1-1 support is directed through the appropriate county/regional planning authority, which provides funding for education and training support and capital improvements.

An ESD is a special district established by law to provide emergency services within a specified jurisdiction consisting of one or more counties. Authorized emergency services include emergency medical services, emergency ambulance services, rural (including volunteer) fire prevention and control services, and others as authorized. Upon approval by a vote of the qualified voters within the jurisdiction, the commissioners court(s) of the counties, or a portion of a county, within the ESD jurisdiction may levy ad valorem taxes of up to \$.10 per \$100 valuation to support the purchase maintenance of equipment to provide physical emergency services. The County Appraisal District sets valuations to determine taxes, and the County collects the taxes and disburses the appropriate amount to the ESD taxing unit. Many metropolitan counties have multiple ESDs within the county. Some counties have Emergency Medical Services Districts limited to only emergency medical services. Not all counties are covered by an ESD, particularly rural counties, and therefore receive no ESD tax funding to support EMS equipment.

Regional councils of governments (COGs) are voluntary associations of local governments formed under Texas law. COGs include counties, cities and independent school districts located within their multi-county jurisdiction. COGs deal with planning and service related to virtually all shared concerns that cross the boundaries of individual local governments or that require regional attention, which includes 9-1-1 emergency telephone communications planning. COGs also act as a fiscal agent for state funding to 9-1-1 systems.

Regional 9-1-1 systems represent the cooperative efforts of counties, public safety answering points (PSAPs), emergency service providers, and telephone companies. The systems currently provide enhanced 9-1-1 services whereby caller information is displayed when 9-1-1 is dialed. On landline phones this includes the caller's phone number and location. COGs provide: funding for emergency operator and EMD training; 9-1-1 equipment; all materials, support and maintenance for 9-1-1 equipment and databases; and, public education materials and distribution. Each COG requests funding for 9-1-1 Programs in its budget submitted to the State. 9-1-1 budget funding is appropriated and authorized by the Legislature from the 9-1-1 Services Fee Fund.

Several COGs were represented in this pilot study. The Montgomery County Hospital District – EMS is represented by Houston-Galveston Area Council (HGAC). The City of Gatesville/Coryell County EMS is represented the Central Texas Council of Governments (CTCOG). The City of Lufkin EMS is represented by the Deep East Texas Council of Governments (DETCOG). The Jack County EMS is represented by Nortex Regional Planning Commission.

The Texas Commission on State Emergency Communications (CSEC) is responsible for supporting public health and safety through reliable access to emergency telecommunications services. The CSEC oversees and funds 9-1-1 programs administered and operated by the state's 24 regional planning commissions (RPC), which account for 224 of the 254 counties in Texas. The remaining counties are administered by separate 9-1-1 entities known as Emergency Communications Districts and 9-1-1 Home Rule Municipalities. (See Appendix G: Map) The

CSEC is the state's 9-1-1 authority and coordinates efforts with these 9-1-1 entities. The CSEC focuses on telecommunications infrastructure, emergency location databases and call taking equipment to provide landline and wireless 9-1-1 phone service. There are 529 primary 9-1-1 Public Safety Answering Points (PSAPs) that are overseen by the Emergency Communications Districts, 9-1-1 Home Rule Municipalities, and Regional Planning Commissions. However, activity relating to the personnel and operations of PSAPs is not within the CSEC authority. For further information regarding the CSEC access their website at <http://www.911.state.tx.us>.

The overall responsibilities the Texas Department of State Health Services (DSHS) has for Emergency Medical Services (EMS) are pursuant to the Texas Health and Safety Code, chapter 773 and the rules promulgated there under. DSHS is the regulatory, licensing and enforcement agency for Emergency Medical Services Providers, Personnel and Education in Texas. DSHS manages multiple state grant projects aimed at improving pre-hospital and trauma care, provides technical assistance to a wide variety of stakeholders, both internal and external, and promotes access to EMS and EMS education. DSHS also oversees the Regional Advisory Councils (RACs) and Trauma designation.

The strategic planning responsibilities DSHS has for EMS include statutory responsibility for maintaining a state EMS plan, service delivery areas and area EMS plans. DSHS is also the state agency designated to develop state plans required for participation in federal programs involving emergency medical services. Another strategic component of the DSHS regulatory role is implementation of the DSHS Regulatory Philosophy, which has the goal of voluntary compliance, and uses the acronym of REACH: **R**eliable rules and standards; **E**fficient administration of activities; **A**ccountability to citizens and stakeholders; **C**ompliance actions when necessary; and **H**elp through technical advice and communication.

DSHS establishes standards and requirements related to protocols for delivery of emergency medical information to members of the public during medical emergencies; certification of emergency medical services (EMS) information operators; approval of training programs for EMS information operators; certification of EMS information operator instructors; and approval of EMS information operator instructor training programs.

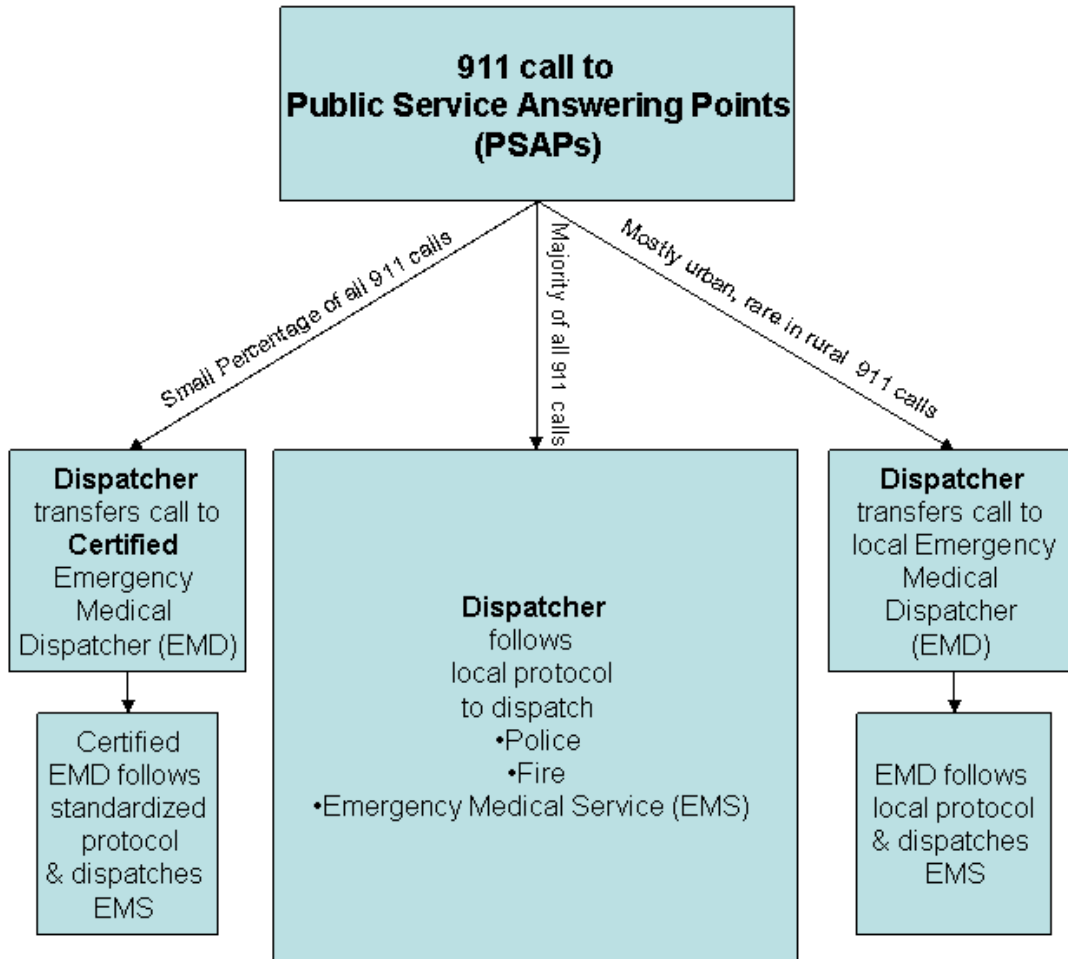
DSHS is unaware of any legislation that mandates the use of operators with emergency medical dispatch training or certification at public safety answering points or emergency call centers operated by law enforcement, fire departments, or emergency medical service providers. The Health and Safety Code Chapter 773.141 through 773.147 set forth requirements for emergency operators that give pre-arrival instructions to callers requesting emergency medical services. See Appendix G for additional information EMS education and training activities supported by DSHS.

9-1-1 Public Safety Answering Points (PSAPs) are the key initial step in the chain of response to a call for emergency medical support. The answering points in rural areas are usually physically and administratively located within the county sheriff's department. These usually function with a law enforcement response as priority and with a healthcare response secondary, simply because of their organizational context. In some areas other agreements have been made whereby a community's police department may manage the PSAP for the area. Such is the situation in

Gatesville in northern Coryell County, which is divided from its southern area by the U.S. Army's Fort Hood complex.

EMS response is also quite variable, and may be provided by a community volunteer corps, for-profit EMS contractor, the private non-profit healthcare sector, or public sector based services such as through the local hospital or fire department as a publicly funded effort. Some areas are served by a mix of such provider organizations, and project staff was provided anecdotal evidence of competition for responses in certain areas of the state. More often, neighboring areas work collaboratively to define the service area coverage and logistics of response for general as well as special needs responses such as chemical spills or other incidents.

The project staff did not locate readily available data that defines the type and nature of EMS response provided in rural areas. Data is also not available to accurately determine average response time for medically trained personnel in properly equipped vehicles answering calls in Texas' rural areas. Patient outcome data is not routinely gathered or evaluated beyond what each local EMS provider conducts for its self-determined quality review criteria. The response time reported in an informal poll in rural communities surrounding metropolitan areas varies from an in-town response of 5 – 8 minutes, to a response of 15 – 20 minutes in outlying areas. Large portions of deep East Texas have response times varying from 15 – 20 minutes close to town, to 40+ minutes in remote areas. The population in many areas of West Texas and South Texas experience a lengthy response time compounded by delayed advanced treatment due to the vast distances between treatment centers; some counties have no doctors, clinics, and/or hospitals.



It has long been believed that emergency medical care begins when the pre-hospital care providers, the first responders, arrive at the scene. However, when EMDs are properly trained and equipped, emergency medical care can begin the moment the dispatcher answers the phone. This makes properly trained and equipped EMDs a critical link in the EMS chain of patient care.

Description of the Pilot Project

Initiating the Pilot Project

Near the end of the 79th Legislative Session, East Texas Area Health Education Center staff undertook a process to identify key stakeholders and others who would be important to assessment of the intent of S.B. 523 and to the planning of the EMS Dispatch Resource Center Pilot Project. The legislative sponsors identified individuals who they knew were interested in the bill. Others who had made appearances at bill hearings or testified on the bill were contacted and asked to participate in an advisory capacity for the project. AHEC staff found a well-informed core group of individuals who seemed to have a specific interest in the strategy proposed by the bill. Those individuals also identified others who were considered resources to the pilot project.

The Project Advisory Group included:

Ed Racht, M.D. – Director, Austin/Travis County EMS; Chairman, Texas EMS Advisory Council

Allen Johnson - Chief Administrative Officer, Montgomery County Hospital District

Ernesto Rodriguez – Assistant to the Medical Director, Emergency Physician’s Advisory Board, and Austin-Travis County EMS

Terry Bavousett – State EMS Director, Texas Department of State Health Services

Brett Hart – Manager, EMS Compliance & Quality Assurance Group – Central, Texas Department of State Health Services

Stephen Brown – Vice President of Public Advocacy, American Heart Association

Joel Romo – State Advocacy Director, American Heart Association

Douglas Dunsavage – Advocacy Director, North Texas, American Heart Association

Ex officio:

Scot Kibbe – Legislative Director, Office of Senator Robert F. Deuell, M.D. (R-2)

Heather Fleming – Legislative Director, Office of State Representative Jim McReynolds (D-12)

With participation of this Group confirmed, a series of conference calls were initiated to design, develop, and implement the pilot project. Each participant in the Advisory Group was familiar with the intent of the legislation. The service provided in the pilot by the Resource Center was defined to be post-dispatch emergency care instructions provided to the caller on the scene with the victim. The group’s design considerations included:

- background discussion on EMS services
- basic definition of the services to be delivered by a resource center in the pilot
- scope of services to be supported in the pilot
- geographic area advantages and disadvantages
- technology infrastructure required for the resource center
- capacity of existing 9-1-1 dispatch centers to serve as resource center
- identification of premier dispatch centers who would be capable of serving as resource center
- resource center selection criteria
- data requirements for pilot project enabling reasonable evaluation and description of the outcomes
- measures that could be used from anticipated available and generated data
- barriers to data collection
- strategies to carry out the pilot
- potential PSAP participants for the pilot
- specific requirements stipulated by the legislation

The Advisory Group agreed that participating PSAPs would continue to be responsible for receiving initial emergency calls in order to evaluate the need for, and to dispatch a responder to the scene of the call, based on their established local protocol. The Group also agreed that upon completion of the initial 9-1-1 assessment resulting in dispatch of the emergency unit to the scene, the PSAP would transfer all such calls to the Resource Center for further evaluation. If patient incident criteria were met upon evaluation by the Resource Center dispatcher, then on-telephone instructions to support the caller's emergency care of the victim until arrival of the first responder would occur.

The all-calls-transferred principle was important to the pilot project. It allowed the Resource Center to collect information on all calls to the participating PSAP that resulted in dispatch of an emergency medical first responder. The principle also removed the variable introduced by the potential decision of each local dispatcher on the need for additional on-phone support for the caller, and standardized that decision based on the protocols used by the Resource Center dispatchers. The principle needed further definition once the logistics of the operation were planned to a detailed level. For example, a roadway motor vehicle accident might result in multiple calls on the same incident. Only the call from an on-scene caller who was rendering aid to the victim was transferred; another example was for calls from health care facilities, such as nursing homes or prison units that have onsite licensed health care staff available to render proper care. Those calls were not transferred to the Resource Center. A third example requiring modification of the principle was in the case in Lufkin of first responders being able to reach an in-town scene within 4-6 minutes of call-out, obviating the need for on-phone support.

The Project staff consulted with a biostatistician to confirm the data considerations necessary to result in reliable and generalizable results from measurement and evaluation of the Pilot Project. It was determined that a minimum of 200 calls supported by the Resource Center would be necessary to reach acceptable statistical reliability and generalizability of the findings. This became an important consideration in defining the capacity of the Resource Center to handle at least that many calls in the prescribed Pilot Project operational phase. It also was an important

consideration in identifying participating PSAPs that could provide an adequate volume of transferred calls for support by the Resource Center.

The Advisory Group agreed that geographic distance was not a barrier to participation in the Pilot Project. The Group was also interested in assuring that participating PSAPs had responsibility for dispatch to rural areas with extended response times beyond 11 minutes, the generally accepted outside limit for urban EMS services. The Group felt telecommunications technology was adequate in any area of the state to support the Pilot Project.

Computer-based dispatch technology was felt to be a necessity for the Resource Center, to enable industry-standard dispatch support, data collection, quality improvement, and project evaluation. This was also important when considering the availability of digital switching and connectivity in the local telecommunications infrastructure. High quality, reliable local phone service was important to the success of the Resource Center and Pilot Project. The Advisory Group decided the Resource Center should provide instructions based upon the internationally accepted National Academies of Emergency Dispatch standards, and should be able to review and evaluate the Resource Center dispatchers' performance with a technology-derived data management system. It was also decided that the participating PSAPs should be capable of generating call logs and event documentation for the calls supported by the Resource Center.

The Advisory Group identified three 9-1-1 dispatch centers in the state, Austin, Amarillo, and Conroe, which were felt to meet the criteria; have the capability and capacity to serve as the resource center; have a strong positive reputation for their work; and, an interest in serving as Resource Center for the Pilot Project. Since the AHEC staff responsible for implementing the legislative charge is located in Galveston, Austin and Conroe were considered first. The Austin EMS director deferred to Conroe, so The Montgomery County Hospital District – EMS department was further evaluated to serve as the Resource Center. It was found that the Montgomery County Hospital District (MCHD) is a political subdivision of the State of Texas, established through special legislation in 1977 to provide healthcare for needy residents of the county. In addition to its legislative charge to provide indigent care, MCHD operates the county's ambulance service, 800-trunked radio system, emergency dispatch, and also offers a variety of community and professional education programs. MCHD EMS provides emergency and non-emergency ambulance transport for the citizens and visitors of Montgomery County, Texas. Covering 1100 square miles and population of 360,000, the agency responds to approximately 30,000 calls for assistance annually. MCHD utilizes the Medical Priority Dispatch Protocol (See Appendix A) developed by the International Academies of Emergency Dispatch, which is the leading, standards-setting organization for emergency dispatch practice.

Pilot Project staff conducted a site visit at MCHD – EMS and was able to observe first-hand how the EMS Dispatch Center for Conroe and Montgomery County operated. Impressed by the technology and the interest in the pilot of the highly professional MCHD staff, the Resource Center was quickly confirmed and contract efforts were initiated between MCHD and UTMB to support the costs of operation of the Resource Center on project funds appropriated under the act.

Attention then turned to selection of participating PSAPs. The Advisory Group suggested several small and rural communities as candidates. In addition, the statewide AHEC Network was

requested to identify potential communities with PSAPs serving rural areas that might be willing to participate. After considerable effort, three rural-serving PSAPs accepted invitations to participate in the Pilot Project. Lufkin/Angelina County, Gatesville/Coryell County, and Jacksboro/Jack County agreed to participate, and completed the composition of the project team as listed.

The Project Implementation Team included:

Frank Marshall – Associate EMS Director, MCHD

Kelly Curry – Deputy Administrator, MCHD – EMS

Omar Qassom – Communications QI Supervisor, MCHD – EMS

Keith Bickley – Communications Supervisor, Lufkin Police Department

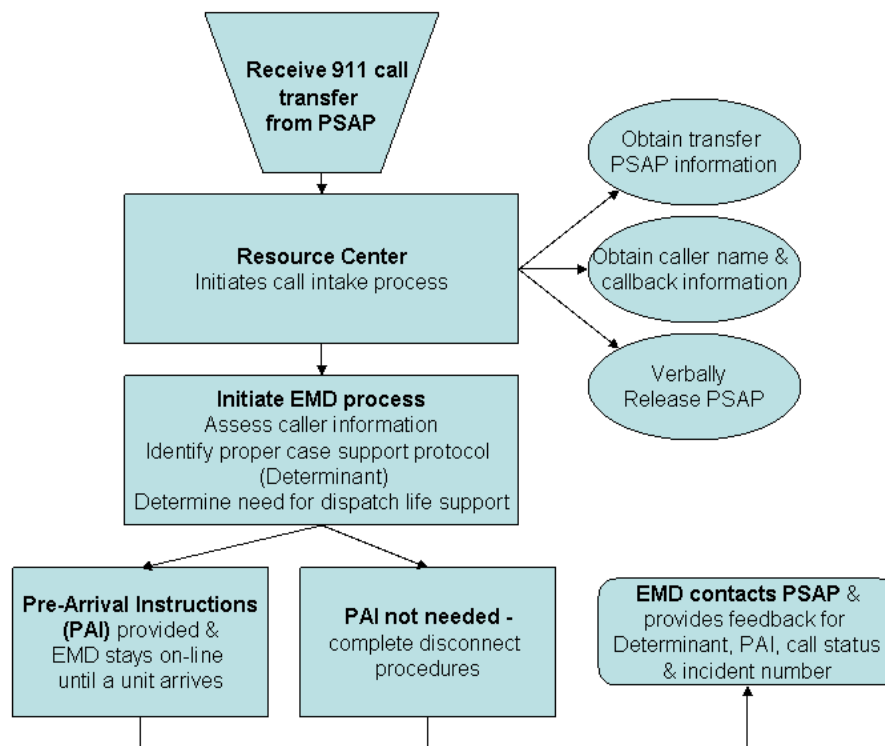
Ms. Eddie Bruton – Communications Supervisor, Gatesville Police Department

Lieutenant James Forbus – Communications Director, Jacksboro Police Department

J.D. Haley – EMS Director, Faith Community Hospital

Sergeant Betty Williams – Communications Director, Jack County Sheriff’s Office

Pilot Project Process Flow



Resource Center Logistics

The startup of the Resource Center required attention to several details that needed to be addressed and resolved: Acquiring additional incoming telephone lines; custom programming of the Dispatch software to accommodate and distinguish incoming calls from the participating PSAPs; coordinating additional staffing and scheduling assignments of dispatchers in Conroe; and refining the established review and quality improvement processes.

Incoming 800 toll-free numbers were acquired by the MCHD Resource Center for use by the PSAP participants that were then programmed into their phone systems to enable prompt call transfer. This also allowed the costs of the long distance service that would have otherwise been charged to the regional planning authority accounts covering the communications costs of the respective PSAPs to be charged to the Pilot Project.

MCHD staff prepared a training/orientation module for the PSAPs, and conducted the training by telephone prior to initiation of the actual pilot. Pilot Project Team Friday conference calls were held to review the week just completed during the entire active phase of the pilot. Transfer call data and QI performance were reviewed in weekly summary information provided to the Team by the Resource Center for each conference call. Logistical adjustments anticipated to improve the pilot were discussed and implemented when agreed upon by the Team.

The first calls to the fully operational Resource Center were received on June 21, 2006, and the Resource Center ended the pilot upon achievement of 400 received transfer calls on September 23, 2006.

Analysis of Pilot Project Activity

- **400 completed cases** – after dispatching a vehicle the rural PSAP transferred the 911 call to the EMS Dispatch Resource Center, which provided professional assessment and instructions for the on-the-scene caller if determined as needed based on standardized protocols.
- Of these 400 calls, 238 (60%) of the incidents fell in 6 protocols.

Protocol 6 – Breathing Problems	69 cases
Protocol 10 – Chest Pain	68 cases
Protocol 31 – Unconscious	57 cases
Protocol 17 – Falls	32 cases
Protocol 9 – Cardiac/Respiratory Arrest	8 cases
Protocol 11 – Choking	4 cases
- 52% of caller events supported were of very serious or critical nature.
- 18 specially trained EMD-certified professional dispatchers supported the 24/7 schedule providing the services of the EMS Dispatch Resource Center.
- The overall Quality Improvement score rating for all cases was 98.45%, above the 95% required for a Certified Emergency Dispatch Center.

- Only 3 cases were assessed as outside of the determinant drift parameters, 1 under-response and 2 over-responses. In other words, one call should have provided more instructions, and two cases were provided more instructions than necessary, when assessed against the quality improvement measures for the dispatcher patient care algorithms.
- 99.66% Customer Service Score was achieved for the 400 cases.

Financial Report on the Pilot Project

The 79th Legislature provided funds for this demonstration project from the state's 9-1-1 Services Fund, amounting to \$75,000 for each year of the biennium. These funds were incorporated into the institutional budget of The University of Texas Medical Branch. An account was established by the university for the express use by AHEC for costs associated with the Pilot Project. The East Texas AHEC, as project manager, subsequently established a contract for support of Resource Center activities with Montgomery County Hospital District. MCHD submitted periodic invoices to the AHEC for reimbursement of expenses associated with the Pilot Project. PSAPs, the Project Work Team participants, and the Project Advisory Group were not eligible for any reimbursement of any costs associated with the Pilot Project, based on legislative restrictions and project policies. While the legislation enabled the seeking of other sources of funds to support costs of the pilot, no other funds were sought or acquired. In-kind costs on the part of PSAP staff were accumulated during the planning and training phase of the project implementation. The Resource Center staff also incurred in-kind costs during the planning and training phase for which they did not request reimbursement under the contract. Direct costs of the pilot that were invoiced to the AHEC/UTMB by MCHD in FY06 totaled \$56,900. AHEC did not charge any administrative costs to the project account in FY06. Anticipated costs in Fy07 include Resource Center costs incurred during the September period of the pilot, and AHEC administrative costs associated with preparation, printing, and distribution of this report. AHEC is exploring the possibility of developing a cost model for implementation of the network of regional EMS Dispatch Resource Centers, which may be submitted later as a supplement to this report.

Findings

- According to best estimates by local, regional, and state EMS experts, since data is apparently not maintained:
 - In frontier areas, no PSAPs have EMS specialized dispatchers
 - In rural areas, less than 10% of PSAPs have EMS-specialized dispatchers
 - For all areas combined, less than 50% of PSAPs have EMS-specialized dispatchers, with an unknown number who are actually certified EMDs
- TDSHS certifies EMD instructors, who are then responsible for certifying those completing their training requirements
- Data is not maintained by the state to be able to quantify the number of EMD certified individuals in Texas.
- Texas accepts national EMD training certification documentation.

- There is no standard certification or licensing required for those designated at PSAPs to respond to emergency medical 9-1-1 calls.
- PSAPs are not required to report the number of dispatch staff who are trained at any level of emergency medical care (ECA, EMT-I, EMT-II, EMT-Paramedic, EMD, or EMD-certified.)
- PSAPs are not required to staff specifically for emergency medical dispatch, or to provide emergency medical trained personnel for dispatch in their PSAP.
- There is no standard policy or procedure for systematic documentation of the nature or outcome of 9-1-1 calls resulting in dispatch of an emergency medical response unit.
- There is no minimal state standard for emergency medical response equipment or capability of responder personnel.
- State-level data is not available which describes the provider of emergency medical response by geographic area (e.g. private contractor, hospital-based, or public agency-based EMS.)
- PSAP dispatchers providing emergency medical dispatch services range from minimum wage part-time workers to professionally trained and certified emergency dispatch professionals. Turnover rates of dispatch personnel are reported by experts to be highly variable among PSAPs, and related to the nature of the work and the type of individual attracted to the emergency medical services field.
- Small operational-level PSAPs often only staff with one dispatcher per shift, thereby limiting their ability to stay on-phone with callers requiring extended assistance.
- Rural PSAP dispatchers usually manage police, fire and emergency medical 9-1-1 calls.
- PSAP dispatchers without emergency medical dispatch training are not confident or comfortable using established emergency management instruction protocols without the fundamental background training needed for competency with the information, as reported by pilot project participants.
- PSAP data collection and maintenance procedures are not standardized or required to be computer-based.
- Liability concerns continue to impact PSAP dispatcher role definition, especially in the absence of formal emergency medical dispatch training.
- EMD-certified dispatchers receive certain state liability protection upon certification, but non-certified dispatchers have no liability protection.
- Law enforcement and emergency medical dispatch terminology and language, are different, complicating the tasks of dispatchers in PSAPs providing both functions from a single desk.
- The language used within the emergency medical care field is confusing. For example, the acronym EMD is used to refer to the protocol and/or training aids used by certified emergency medical dispatcher (the EMD) in the call process, as well as when referring to the person.

Recommendations

1. Establish a network of regional Emergency Medical Dispatch Resource Centers
 - EMDR Centers should be staffed by certified EMDs for the purpose of providing technology-supported, post-dispatch call assessment and evidence-based, quality tested pre-arrival instruction protocols to support PSAPs unable to provide caller support by certified EMS dispatchers due to lower operational scale, fiscal or other constraints.
2. Collect, analyze, and maintain ongoing data from which reports can be generated describing EMS in Texas in quantitative and qualitative terms, and that also serve as the basis for quality improvement activities.
 - Information should be available to: periodically review and refine the delivery of emergency medical services; the preparation and qualifications of individuals and organizations providing emergency medical services; and to describe in geographic terms the nature and extent of services available for emergency medical response.
3. Systematize qualifications for dispatchers providing emergency medical dispatch services.
 - Minimum standard qualifications for dispatchers providing emergency medical dispatch assure a basic standard of service in all PSAPs. This is especially relevant in PSAPs that do not differentiate law enforcement, fire, and emergency medical response functions. Advanced medical dispatcher qualifications should be required for PSAPs at higher operational levels.
4. Establish a registry for individuals obtaining and maintaining qualification as an EMT-I, EMT-II, EMT-Paramedic, EMD, or certified EMD.
 - Especially given heightened concern for readiness and response in the event of catastrophic event, the identity, location, and currency of qualification of individuals comprising Texas' emergency medical response system capability are unknown to the state. According to the National Academy of Emergency Dispatch (NAED), there have been approximately 5,222 individuals that have taken the class and are, or have been trained and certified at one time or another as an EMD in Texas. According to NAED there are currently 1,934 certified EMD's in the State of Texas. This is for the Priority Dispatch System Only.
5. Establish minimum standards for, and support achievement of minimum required proficiencies for local first responders and emergency medical response equipment.
 - Variability still enables a wide range of proficiency in the patchwork that comprises the state emergency medical response system.
6. Clarify hold-harmless provisions for dispatchers providing emergency medical dispatch services in order to limit personal and professional liability.
 - Reluctance to provide emergency medical support is reported among the dispatch community due to lack of clarity on the extent of liability for such interactions.

Summary

The Pilot Project demonstrated a methodology that has the potential to refine the Texas emergency medical response system in a way that enables, consistent, high caliber, quality-measured emergency medical support communications by highly qualified, technology-supported certified emergency medical dispatchers to 9-1-1 callers irrespective of geographic location.

This Pilot Project demonstrated that the Medical Protocol Dispatch System as applied in this pilot enables a “near zero response time” by providing standardized quality-tested instructions to callers on the scene with the victim. This eliminated delays in initiation of proper care to victim.

The availability of Emergency Medical Dispatch Resource Centers enables tiering of dispatch support services. In locations where there are fiscal and other constraints, PSAPs would be able to staff dispatchers and train at a basic level of emergency medical proficiency with the lower concomitant costs. Resource Centers would train and staff at a high level of proficiency and operate at a better scale of cost effectiveness and efficiency with responsibility for providing extended emergency medical telecommunications support for a wide geographic area by certified emergency medical dispatchers.

Development of a single statewide EMS Dispatch Resource Center or a network of regionally-based EMS Dispatch Resource Centers should be considered if a higher, more consistent standard of emergency medical care would be considered of value in the public interest.

The EMS Dispatch Resource Center Pilot Project is considered a success by the local PSAP participants, Resource Center participants, and project staff. As one communications director participating as a PSAP in the Pilot Project states, “All of the call taker/dispatchers were very excited about the project and hated to see it end. It was a relief to have the Resource Center to count on when they had a medical emergency call.”

Appendix A – Glossary of Acronyms

9-1-1 – the emergency number to request police, fire, and emergency medical response

AHEC – Area Health Education Center

CSEC – Texas Commission on State Emergency Communications, the “9-1-1 Commission”

COG – Council of Government

CVA – Cerebrovascular Accident

DLS – Dispatch Life Support

DSHS – Texas Department of State Health Services, the state public health department

ECA – Emergency Care Attendant

EMD – Emergency Medical Dispatcher, with or without certification

EMDR – Emergency Medical Dispatch Resource Center

EMS – Emergency Medical Service(s)

EMT – Emergency Medical Technician, trained at up to three levels of proficiency

ESD –Emergency Services District

MCHD – Montgomery County Hospital District

MPDS – Medical Priority Dispatch System, a trademarked software product

MVA – Motor Vehicle Accident

PAI – Pre-Arrival Instructions

PDI – Post-Dispatch Instructions

PSAP – Public Safety Answering Point, the place that answers 9-1-1 calls in a local jurisdiction

QI – Quality Improvement

RPC – Regional Planning Commission

UTMB – University of Texas Medical Branch

Appendix B - What is MPDS™?

Medical Priority Dispatch System (MPDS) developed by the International Academies of Emergency Dispatch is software that supports dispatch-specific protocols. Produced by Priority Dispatch Corporation, the system integrates the recommendations published by the American Heart Association in the *2005 AHA Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care*. The AHA guidelines are based on the evidence evaluation from the *2005 International Consensus Conference on CPR and Emergency Cardiovascular Care Science With Treatment Recommendations*, in collaboration with the International Liaison Committee On Resuscitation.

The MPDS is simple, yet complete. It includes Chief Complaint/incident type protocols which help EMDs quickly obtain vital information about patient status and scene conditions. The EMD then uses this information to send the appropriate response configuration as determined by local medical and EMS control. The MPDS also includes Dispatch Life Support treatment sequence protocols covering arrest, choking, and childbirth. These protocols enable a trained and certified EMD to assist the caller in immediately helping the patient.

The MPDS protocols ensure that trained and certified EMDs properly carry out the following four important activities.

1. Structured and rapid caller interrogation and patient evaluation.
2. Accurate selection of the appropriate EMS unit response.
3. Relay of important patient and scene information to field responders.
4. Provision of essential Dispatch Life Support.

In order for EMDs to be patient advocates, they must also be system advocates. EMS agencies must maintain a reasonable level of staffing and unit availability, so when calls come in, EMDs can make the most efficient use of available resources.

Emergency Medical Dispatch

For many years the EMS dispatcher was without a system to ensure accurate decision making based on sound medical principles. Historically, the interrogations conducted by these ill-equipped medical dispatchers resulted in subjective evaluations of the pre-hospital responses required for each call. Inconsistencies in medical dispatch policies, procedures, and practices have led to major legal disasters that could easily have been avoided if the dispatchers had been provided with the training and protocol tools necessary to perform their job properly.

One of the primary purposes of the MPDS protocols is to enable EMDs to determine the appropriate response to send to for any given emergency. The protocols help EMDs quickly obtain the patient status and scene information necessary to determine the appropriate dispatch determinant code. The EMD then sends the response configuration that has been assigned to the

code by local medical and EMS control. In short, the MPDS helps dispatchers send the right thing, at the right time, in the right way.

In several implementation studies of agencies with both basic life support (BLS) and advanced life support (ALS) capabilities, the MPDS reduced the number of ALS responses by 30 percent. The MPDS also produced commensurate decreases in emergency medical vehicle accidents and unit maintenance costs. This happens because the MPDS protocols enable EMDs to make safe response choice decisions based on well-established medical principles, as opposed to making dangerous decisions based on subjective, unstructured interrogations.

Another primary purpose of the MPDS is to enable EMDs to assist callers in aiding the patient prior to on-scene arrival of field personnel. This is accomplished through uniform, medically approved, dispatch life support (DLS) protocols. All of the MPDS DLS protocols meet or exceed the international standards for emergency medical dispatching.

It has long been believed that emergency medical care begins when the pre-hospital care providers, the first responders, arrive at the scene. However, when EMDs are properly trained and equipped, emergency medical care can begin the moment the dispatcher answers the phone. This makes properly trained and equipped EMDs a critical link in the EMS chain of patient care.

Appendix C - Medical Priority Dispatch System – 32 Protocols

- 01 Abdominal Pain
- 02 Allergic Reaction
- 03 Animal Bite/Attacks
- 04 Assault/Sexual Assault
- 05 Back Pain
- 06 Breathing Problems
- 07 Burns
- 08 Inhalation/Hazmat
- 09 Arrest/Death
- 10 Chest Pain
- 11 Choking
- 12 Seizures
- 13 Diabetic Problems
- 14 Drowning
- 15 Electrocution/Lightning
- 16 Eye Problems/Injuries
- 17 Falls
- 18 Headache
- 19 Heart Problems
- 20 Cold/Heat Exposure
- 21 Hemorrhage/Lacerations
- 22 Inaccessible Incident
- 23 Overdose/Poisoning
- 24 Pregnancy/Miscarriage
- 25 Psychiatric
- 26 Sick Person
- 27 Stab/GSW/Penetrating Trauma
- 28 Stroke/CVA
- 29 MVA
- 30 Traumatic Injuries
- 31 Unconscious/Fainting
- 32 Unknown Problem

Appendix D - Sample Supervisor's Quality Improvement Evaluation for an Individual Dispatcher – Medical Case Evaluation Record

Medical Case Evaluation Record			
Agencies Montgomery County EMS			
Incident Number:		Date: 8/12/2006	Time: .
Dispatcher Name:		Position: PSCO I	
Incident Desc.: CHEST PAIN		Party: 2	
		Shift/Team:	
Case Entry			
Address asked? Obvi	Verified? Obvi	How obtained? REMDA	
Callback number asked? Yes	Verified? Yes	"You go check..." stated? Obvious	
"What's the problem..." asked? Yes	Asked correctly? Yes	Gender of patient asked? N/A	
"Are you with the patient now" asked? Yes	Asked correctly? Yes	Questions were asked out of order? No	
"How many people are hurt" asked? Obvi	Asked correctly? Yes	Chief Complaint Protocol Selected? 10	
"Is s/he still choking" asked? N/A	Asked correctly? Yes	# of freelance questions asked? 0	
"How old is s/he" asked? Yes	Asked correctly? Yes	Age: 52 Years	
"Tell me approximately..." stated? N/A		Calming techniques used? N/A	
"Is s/he conscious" asked? Yes	Asked correctly? Yes	ECC Score: 1	
"Is s/he breathing" asked? Yes	Asked correctly? Yes		
		Case Entry Protocol Score:	100
		Chief Complaint Selection Score:	100
Key Questions			
KQ #	Question	Asked?	Answer
1	Is he completely awake (alert)?	Obvic	He is not compl...
2	Is he breathing normally?	Obvi	ults not known i...
3	Is he changing color?	Corre	He is changing ...
4	Is he clammy (cold sweats)?	Correct	He is clammy.
5	Does he have a history of heart problems?	Corre	He has no histo...
6	Did he take any drugs or medications in the past 12 hours?	Corre	He did not take...
		Calming techniques used? N/A	
		ECC Score: 1	
		Key Questions Score:	100
Dispatch Life Support			
PAI Appropriate? No		PDI Possible? Yes	
Possible? No		Given? Yes	
Given? No		Correct: Correct	
Correct: Correct		Calming techniques used? N/A	
		ECC Score: 1	
		DLS Instructions Score:	100
Final Coding Assignments			
Assigned Code: 10 - D - 1 -			
Reviewed Code: 10 - D - 1 -			
Date reviewed: 8/14/2006			
Reviewed By:			
Agency: Montgomery County EMS			

Appendix E - Quality Improvement Report for All 400 Cases

QI Summary Report

Agencies Montgomery County EMS
 Agencies Montgomery County EMS

Distribution: All Cases				
Determinant	# of Cases Reviewed	% of Cases Reviewed	# of Cases Entered	% of Cases Entered
OMEGA	3	0.75%	3	0.75%
ALPHA	58	14.50%	58	14.50%
BRAVO	34	8.50%	34	8.50%
CHARLIE	99	24.75%	99	24.75%
DELTA	198	49.50%	198	49.50%
ECHO	8	2.00%	8	2.00%

* Total Cases Reviewed: 400
 * % Reviewed for Period: 5.43%

* Total Cases Entered: 400
 Call Volume: 7364

Statistics:

Protocol #	# of Cases	% Call Volume	Case Entry	Key Question	PAI	PDI	Chief Comp.	Final Code	Score	Customer Service
1	12	0.16%	100.00%	98.33%	N/A	100.00%	100.00%	100.00%	99.67%	100.00%
2	9	0.12%	100.00%	97.33%	N/A	100.00%	100.00%	100.00%	99.33%	100.00%
4	2	0.03%	95.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.00%	100.00%
5	1	0.01%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%	100.00%
6	69	0.94%	98.55%	99.41%	100.00%	100.00%	99.57%	99.71%	99.42%	99.72%
7	1	0.01%	100.00%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%
8	1	0.01%	100.00%	85.00%	100.00%	N/A	100.00%	100.00%	97.00%	100.00%
9	8	0.11%	97.50%	95.00%	85.71%	100.00%	100.00%	100.00%	96.00%	98.75%
10	68	0.92%	98.60%	98.59%	100.00%	99.85%	96.90%	97.65%	98.29%	99.76%
11	4	0.05%	100.00%	97.00%	100.00%	100.00%	95.00%	100.00%	98.25%	100.00%
12	23	0.31%	98.70%	98.35%	100.00%	91.67%	97.83%	100.00%	98.04%	98.35%
13	15	0.20%	97.00%	96.27%	70.00%	100.00%	100.00%	100.00%	95.80%	99.13%
16	1	0.01%	100.00%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%
17	32	0.43%	98.28%	99.06%	100.00%	100.00%	97.91%	98.13%	98.63%	100.00%
18	1	0.01%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%	100.00%
19	3	0.04%	91.67%	100.00%	N/A	100.00%	100.00%	100.00%	98.33%	100.00%
20	2	0.03%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%	100.00%
21	16	0.22%	100.00%	99.38%	100.00%	100.00%	100.00%	100.00%	99.88%	99.81%
23	10	0.14%	98.00%	100.00%	50.00%	100.00%	100.00%	100.00%	97.60%	99.70%
24	1	0.01%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%	100.00%
25	4	0.05%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%	100.00%
26	19	0.26%	100.00%	99.16%	N/A	99.47%	96.47%	95.79%	98.11%	99.84%
27	1	0.01%	75.00%	88.00%	100.00%	N/A	100.00%	100.00%	92.00%	100.00%
28	16	0.22%	97.50%	99.50%	100.00%	100.00%	100.00%	100.00%	99.38%	100.00%
29	10	0.14%	100.00%	99.40%	100.00%	100.00%	100.00%	100.00%	99.80%	100.00%
30	12	0.16%	96.25%	100.00%	100.00%	100.00%	100.00%	100.00%	99.25%	99.75%
31	57	0.77%	94.47%	98.12%	93.33%	99.76%	97.89%	100.00%	97.63%	99.72%
32	2	0.03%	100.00%	100.00%	100.00%	N/A	100.00%	100.00%	100.00%	100.00%
Totals	400	5.43%	97.94%	98.67%	91.64%	99.61%	98.59%	99.20%	98.52%	99.69%

Appendix F – Determinate Drift Report

Determinant Drift

Agencies Montgomery County EMS

View / Filter By... | Reviewed Cases | Date:6/20/2006 | To:9/23/2006 |

Assigned by Dispatcher: All							
After Review:							
	OMEGA	ALPHA	BRAVO	CHARLIE	DELTA	ECHO	?
OMEGA	3	0	0	0	0	0	0
ALPHA	0	57	0	0	0	0	0
BRAVO	0	0	34	0	1	0	0
CHARLIE	0	1	0	99	1	0	0
DELTA	0	0	0	0	196	0	0
ECHO	0	0	0	0	0	8	0
?	0	0	0	0	0	0	0
Totals:	3	58	34	99	198	8	0
Group Totals		Ideal	Under-response (risk)	Over-response (waste)	Unknown		
	400	397	1	2	0		

Selected Protocol: --EMD--

Appendix G – Training and credentialing of EMS Workers

Texas Department of State Health Services' responsibility for certification of EMD Instructors and the hour requirements for training are as follows: to become certified as an EMS information operator instructor, a person must: be at least 18 years of age, hold a high school diploma or GED certificate, hold certification as an EMS information operator, have a written agreement or verified affiliation with an EMS provider, a licensed health care facility, an institution of post secondary education, a law enforcement agency, a fire department, a public emergency dispatch agency, or other public safety agency; have completed, within one year prior to application, a department-approved EMS information operator instructor training program or hold EMS Instructor certification; submit an application to the department with a nonrefundable fee of \$60, except a fee shall not be required if the candidate is not to be compensated for providing EMS information operator training; and, pass an EMS information operator instructor written examination administered or approved by the department.

All EMS information operator instructor training courses shall be conducted by a regionally accredited post-secondary educational institution which is approved as an EMS education program and shall follow a department-approved curriculum; to become certified as an EMS information operator, a candidate must: be at least 18 years of age, hold current evidence of completion of a nationally recognized basic CPR course approved by the department which includes written and skills proficiency examinations, have completed, within one year prior to application, a department-approved EMS information operator training program as defined below and pass an EMS information operator written examination and skills proficiency evaluation which have been approved by the department.

EMS information operator training programs shall be conducted by a certified EMS information operator instructor who has met the requirements above. The standards for EMS information operator training and operations shall be in accordance with the EMD National Standard Curriculum. The course shall consist of not less than 24 hours of classroom instruction in, but not limited to, the following content areas:

- (A) roles and responsibilities;
- (B) legal and liability issues;
- (C) EMD concepts;
- (D) obtaining information from callers;
- (E) resource allocation;
- (F) providing emergency care instruction;
- (G) introduction to the EMD PRS;
- (H) introduction to chief complaint types; and
- (I) EMS system overview.

Emergency Medical Services training programs are technical and educational programs offered in Texas by Community Colleges and Technical Institutes. The TX DSHS approved program curricula meet the Texas State Board of Education, Workforce Education competencies, and meet or exceed the requirements of US DOT. The coursework is nationally accredited by organizations such as the Committee on Accreditation of Educational Programs for the EMS

Professions (CoAEMSP) or the AMA's Committee of Allied Health Educational Program's Joint Review Committee. Advanced levels are obtained through cumulative sequential credit, clinical and field work. Basic Emergency Care Attendant, ECA, training is available for completion. Three Emergency Medical Technician, EMT, proficiency levels are available for certification:

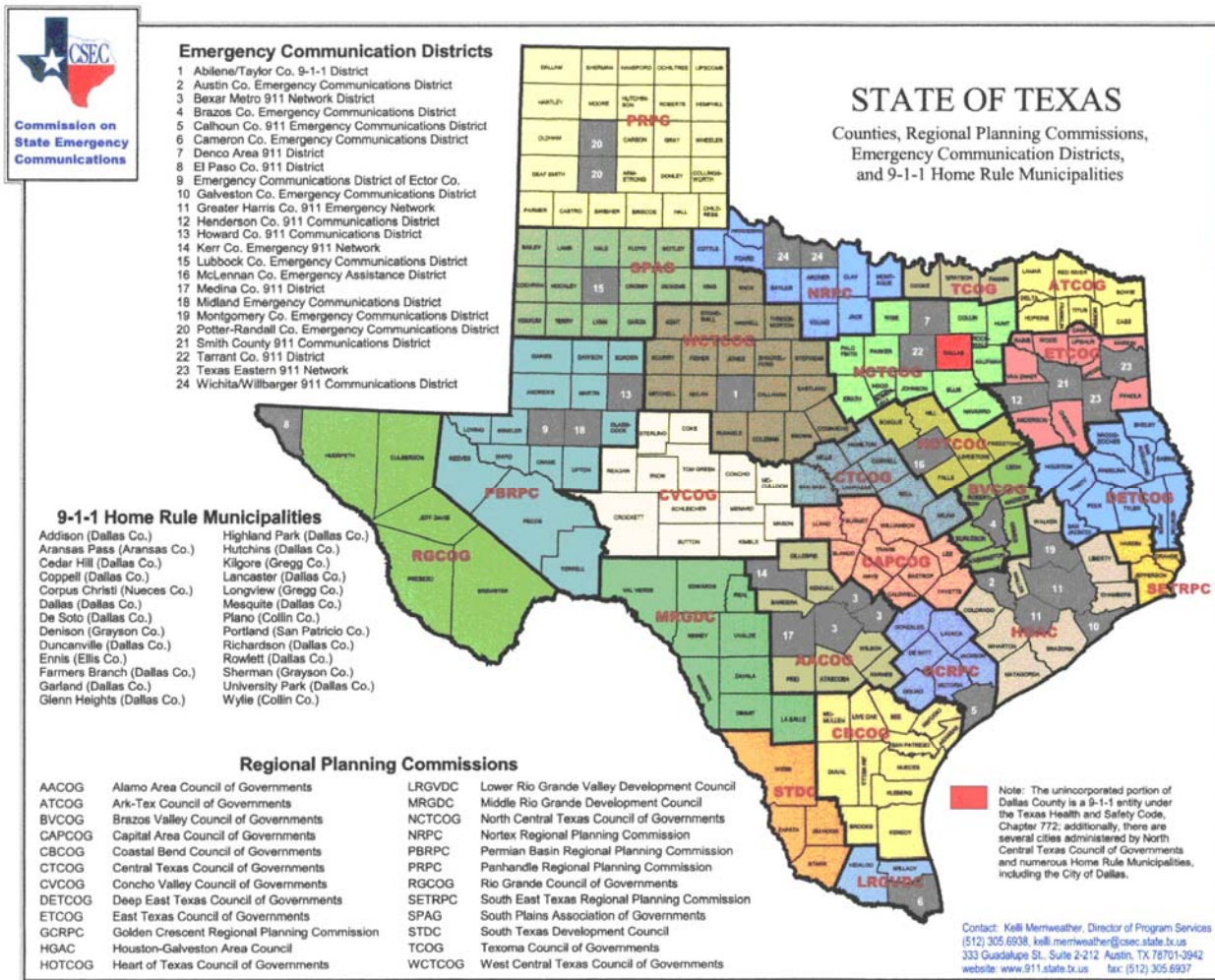
1. ECA – basic training requires minimal training in a 4 – 6 week course. ECAs provide only external assessment and care; they do not provide clinical assistance.
2. EMT – Basic Certificate requires 5 credit hours in EMT-Basic, and 1 credit hour in EMT Clinical course consisting of class time and 64 clinical hours outside of class time.
3. EMT – Intermediate Certification requires above, plus 5 EMT-Intermediate credit hours, 1 Basic Trauma Life Support credit hour, and 1 credit hour in EMT Practicum/Field Experience course consisting of class time and 144 clinical hours outside of class time.
4. EMT – Paramedic Certificate requires above, plus 2 credit hours in Pharmacology, 4 credit hours in Cardiology, 3 credit hours in Paramedic Clinical 1 consisting of 96 clinical hours, 3 credit hours in Special Populations, 4 credit hours in Medical Emergencies, 1 credit hour in Assessment Based Management, 3 credit hours in Paramedic Clinical II consisting of 96 additional clinical hours, and 2 credit hours in Practicum/Field Experience consisting of 224 EMS hours.

Upon satisfactory completion of the coursework required by each level, EMT – all levels students must take and pass the EMS Exam offered by the Texas DSHS Bureau of Emergency Management to be certified. An identification card is issued upon certification, renewable upon recertification.

An Associate of Applied Science – Emergency Medical Services/Technology degree is available for students wanting to advance beyond their EMT-Paramedic certification to become Licensed Paramedics. Upon earning the AAS, a certified EMT-Paramedic may apply for licensure; a non-certified graduate must pass the DSHS exam and then apply.

EMS operators and dispatchers are required to complete DSHS-provided or DSHS-approved EMS information operator training, e.g., National Academy of Emergency Medical Dispatchers (NAEMD) training, and pass an EMS information operator or instructor written examination administered within one year of the training. EMS operators are not required to be certified. However, Emergency Medical Dispatchers, EMD, are certified through the NAEMD as having been trained, tested, and certified in the proper use of emergency medical dispatch protocols.

Appendix H – Map: State of Texas Counties, Regional Planning Commissions, emergency Communications Districts and 9-1-1 Home Rule Municipalities



Appendix I – Letters of Support

- 1. Governor’s EMS and Trauma Advisory Council**
- 2. Texas Chapter of Association of Communications Officials**
- 3. Lufkin Police Department**
- 4. Gatesville Police Department**
- 5. Project Participating Dispatchers Testimonies**



Governor's EMS and Trauma Advisory Council State of Texas

Office of EMS & Trauma Systems
DSHS
1100 West 49th Street
Austin, Texas 78756-3199
512.834.6700

Edward Racht
Chair

Mike Click

Gary Cheek

Luis Fernandez

Frederick Hagedorn

Jodie Harbert

Hector Longoria

Vance Riley

Shirley Scholz

F.E. Shaheen

Joan Shook

Ronald Stewart

Marti VanRavenswaay

Tivy Whitlock

Pete Wolf
Vice-Chair

Steven R. Shelton, M.B.A, PA-C
Assistant Vice President for Community Outreach
Executive Director, East Texas AHEC
Office of Community Health Services
University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1056

Dear Mr. Shelton,

Please consider this letter an acknowledgment of the work you and the team have accomplished in carrying out the Emergency Medical Services Dispatch Resource Center Pilot Project. We followed with interest the progress of this project as outlined in S.B. 523 legislation.

The Council received a briefing on the project and the findings at our quarterly meeting in Dallas on November 20, 2007. As Chair of the Council, I have also had the opportunity to speak with several providers involved in the project. They were complimentary and supportive of the program.

We appreciate the concern and attention that the project team demonstrated in developing the project.

On behalf of the Council, thank you for your excellent work.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Racht MD".

Edward Racht, MD
Chair
Governor's EMS & Trauma Advisory Council
State of Texas

Texas Chapter of APCO

Keith Bickley, President
Lufkin Police Department
kbickley@lufkinpolice.com

Bill Keller, President Elect
Texas Department Public Safety
Robert.keller@txdps.state.tx.us



Holly Faison, 1st Vice President
Texas Department Public Safety
Holly.faison@txdps.state.tx.us

Cyndi Wilson, 2nd Vice President
Deer Park Police Department
cwilson@deerparktx.org

Kim Killion, Secretary-Treasurer
North Richland Hills Police Dept.
kkillion@nrhtx.com

October 11, 2006

Steve Shelton
East Texas AHEC, UTMB
301 University Blvd.
Galveston, TX 77555

Dear Steve,

The Texas Chapter of the Association of Public Safety Communication Officials, Intl. (APCO) supports the emergency medical dispatch pilot project conducted by your organization and the Montgomery County Hospital District. As this program gains interest and with the possibility of it becoming a statewide endeavourer, EMD outreach to rural Texas will help save lives. It is the goal of emergency services everywhere to provide the type of service expected by today's society. EMD is one of those fast growing services.

EMD is a common practice in many urban centers and has proven to be very effective in terms of patient care, particularly in immediate life threatening situations. Due to longer response times by medical personnel, immediate life threatening situations tend to be more critical in rural areas. EMD programs truly make the medical and 9-1-1 operators the "first" first responder.

This organization supports this program and any actions taken to permanently implement such a program throughout the rural areas of the State of Texas. We will provide as much assistance as possible in order to make this a successful statewide program.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith Bickley". The signature is written in a cursive style with a large, stylized "B".

Keith Bickley
President, Texas Chapter of APCO
Lufkin Police Department
(936) 633-0356

Keith Bickley
Communications Supervisor
(936)-633-0356
kbickley@lufkinpolice.com



300 East Shepherd
Drawer 190
Lufkin, Texas 75902
(936) 633-0356

October 11, 2006

Steve Shelton
East Texas AHEC, UTMB
301 University Blvd.
Galveston, TX 77555

Dear Steve,

The Lufkin Emergency Communication Center participated in the specified emergency medical dispatch pilot project. This project enabled our agency operators to connect 9-1-1 callers to highly trained emergency medical technicians that provide pre-arrival instructions, assess the patient condition, and to gather additional information that may be forwarded to the responding medical unit prior to its arrival.

The Lufkin Emergency Center is extremely busy at times and this project benefited the agency's call takers and dispatchers by freeing them from concentrating solely on the 9-1-1 caller. Another benefit of this project is the assurance that the caller is receiving the quality time with EMS specific personnel. Due to the consolidation make-up of our center, it is difficult for our agency to provide this time. The greatest benefactor of this project is the patient. This project demonstrates that the police, fire, EMS, or EMD operator is truly the "first" first responder by providing assistance and care prior to emergency personnel arriving to the scene.

The Regional Emergency Medical Dispatch call center was hosted by the EMS Division of the Montgomery County Hospital District. The coordination and operation of this project was managed very professionally. Frank Marshal and Omar Qassom deserved to be recognized for the amount of work and time spent to make this a success.

This agency supports this pilot program and any actions taken to permanently implement such a program throughout the rural areas of the State of Texas.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith Bickley".

Keith Bickley
Communications Supervisor
Lufkin Police Department



Gatesville Police Department

NATHAN GOHLKE
Chief of Police

October 16, 2006

Steven R. Shelton M. B. A., PA-C
Assistant Vice President for Community Outreach
Executive Director, East Texas AHEC
University of Texas Medical Branch
301 University Blvd.
Galveston, TX. 77555-1056

Mr. Shelton,

I would like to thank you for the opportunity to participate in the EMS Dispatch Resource Center Pilot Project. It was a great asset to this department, as there is only one person (dispatcher/call taker) on duty most shifts. The ability to transfer the EMD call thereby freeing the dispatcher/call taker to continue with other calls and radio traffic was wonderful. I am sorry to see this project end. I feel that the citizens as well as the dispatcher/call takers benefited from the project.

The East Texas AHEC managed the project admirably. The Montgomery County Hospital District EMS Division was very effective as the pilot Resource Center. Everyone was very professional, knowledgeable and a great help to the transferring agency as well as to the citizens.

It is my wish that this project leads to regional EMD centers for the rural areas of the state as well as the funding to implement and run them.

Attached are several calls for service and the corresponding run sheets for calls where airway management or pre-arrival instructions were necessary. The Regional Center being there to handle these calls was a great asset.

Again thank you for the opportunity to participate.

Sincerely,

Nathan Gohlke
Chief of Police

200 North Eighth Street
Gatesville, Texas 76528

www.ci.gatesville.tx.us/police

254-865-2226
FAX 254-865-5070

Dispatchers Testimonies

Miguel Rosario:

“Recently I had the privilege of participating in the Regional Emergency Medical Dispatch (REMDA) project. The operational side was sound and was extremely effective, the project was a success. In my opinion, I would not change any aspect of REMDA, because the process as a whole was efficient. Many benefited from the project, including the participating public safety agencies, as well as the customers in need of help. I am proud to say that I was able to help other communities and that they received the best aide available over the phone. With the REMDA project in place, many callers in other communities received information over the phone that helped patients until Paramedics, EMT’s or First responders arrived. This project also helped the smaller dispatch centers that did not have the adequate manpower to stay on the phone, or the training to give needed help to the patient until emergency crews arrived. I do not feel that populations with rural addresses should receive a lower level of care; they too deserve the best and most appropriate help possible. I recall many thanks from the participating agencies for the help we provided and also heard comments that they wish the project was not coming to an end. One day, I would like to see that this project becomes a permanent program, so that help is always available to those in need.”

Aaron McDonald:

“I found the concept behind the project to be a great idea. I hope the data obtained supports that. The ability for a call center to provide an internationally accepted standard of care in the pre-arrival environment is a service that everyone who calls 911 should get. I feel that what we were able to allow communities that are unable, for one reason or another, to provide this service themselves that service for their callers. The only thing I am hesitant at is if this service becomes available to help indigent counties, which counties and cities with the means to provide the service, won’t. They will choose a regional call center instead of training for their call takers with the tools to fend for them selves.”

Kimberly Cunningham:

“I enjoyed participating in the REMDA project. It was a reminder that not all Texas residents enjoy the same level of care that we do in Montgomery County. I think that it is vital to have a standardized system of post-dispatch instructions. Nowhere else in emergency services do you see agencies operating under such varied protocols. This would enable more centers across Texas to give those lifesaving instructions (CPR, Choking, Child delivery) across the phone. This is the public expectation and should be the standard for dispatch centers everywhere. There are organizations in other states that have formed in response to dispatch centers that do not have this protocol, example: PANDA - Parents Against Negligent Dispatch Agencies. Texas is not above this. The liability of not providing these instructions far outweighs any risk that is undertaken by giving a standardized set of approved instructions. Most lawsuits that result from dispatch centers do not focus on the instructions that were given, but on the lack of instructions or dispatcher training. Not only do the citizens expect this care they deserve it and I was proud to participate in this project. Hopefully it will help other centers obtain the funding and education they need to put these protocols into place and better serve their community.”

Scott Sanders:

“I believe that this project was very beneficial. I think that it was a very good experience for us as a communication center. We were able to benefit not only us as a center, but the citizens of the counties that participated in this. We assisted in with getting the citizens the help they needed and performing any procedures that benefited the pts that needed that help. I feel that having a program like this is needed to continuously get the citizens the best care and help they are able to receive and I am glad that I was able to be a part of it.”

Raymond Taylor:

“My experience with the REMDA project was rewarding both personally and professionally. Personally I believe I was able to have a profound impact on many lives by providing pre-arrival and post dispatch instructions to many citizens of rural counties where they are often times not provided this important part of the prehospital chain. Professionally I was able to be apart of setting up policy and procedures for the project and aid in the implementation of the project and working towards it goals. In closing I would like to say that this is a project that I feel very strongly about. I have family members that live in rural areas of Texas that this will directly impact in a very positive manner and I hope to see it become a standard across the state and nation.”