

***Logan County
Colorado***



***Emergency Medical Services
Consultative Visit***

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Final Version***

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Preface

This document was produced for the Logan County Board of County Commissioners and the Logan County Emergency Medical Services Council. Coordination of the assessment team and production of this document was a joint effort by the Northeast Colorado Regional Emergency Medical and Trauma Services Advisory Council and the Emergency Medical and Trauma Services Section of the Colorado Department of Public Health and Environment under its authority at C.R.S. section 25-3.5-603 to provide technical assistance, upon request, to local governments.

The opinions, analysis and recommendations expressed in this document are those of the authors and do not reflect the official positions of the Northeast Colorado Regional Emergency Medical and Trauma Services Advisory Council or the Colorado Department of Public Health and Environment.

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Executive Summary

An Emergency Medical Services (EMS) Consultative Visit of the Logan County EMS system was conducted at the invitation of the Logan County Emergency Medical Services Council and the Logan County Board of County Commissioners (BOCC) in March 2010. The review team was selected from throughout Colorado for their expertise in EMS issues faced by Logan County. All major participants in the local EMS system were interviewed and additional information on each local provider was collected from publicly available sources. The Logan County EMS system is comprised of a number of small and medium-sized fire departments providing medical first response services, a private ambulance provider, multi-jurisdictional communications center and a mid-sized regional hospital.

The review team determined that EMS services currently being provided within Logan County appear to be adequate but face many challenges. While it was clear all of the EMS organizations had dedicated EMS providers, the public funding and call volume of the system is inadequate to provide a state-of-the-art, well-equipped and well-staffed EMS system. The system is also in need of better coordination of clinical care and administrative oversight. Better mechanisms are also needed to encourage collaboration among EMS providers within the system and current funding models are in need of review. Despite these challenges, the EMS system does have the fundamental elements and people in place to substantially improve the system and the lead EMS regulator, the Logan County BOCC, has demonstrated a willingness to thoughtfully and comprehensively address the county's EMS challenges.

This report contains a number of short, medium and long-term recommendations to improve the current EMS system over the next 3 years. Key elements of those recommendations include improvement of system oversight, establishment of a new inter-governmental authority to plan and implement future EMS system development, acquisition and management of capital assets over time, and improved coordination of clinical oversight. Timelines and pro forma budgets for these recommendations are also included.

Introduction and Project Overview

In December of 2009, the Emergency Medical and Trauma Services (EMTS) Section of the Colorado Department of Public Health and Environment (CDPHE) was asked to facilitate an assessment of the emergency medical services system in Logan County, Colorado. This invitation came from the Logan County Emergency Medical Services (EMS) Council, an advisory board on EMS issues to the Board of County Commissioners. This request came subsequent to the November 2009 failure of two ballot measures by a margin of approximately 65% to 35%. These measures were intended to create an intergovernmental Emergency Services Authority (ESA) to provide EMS services in conjunction with the Sterling Fire Department utilizing a 0.5% sales tax. The ESA proposal was developed earlier in 2009 by a multidisciplinary stakeholder

group to address a number of real and perceived issues with the current countywide ambulance service provider, Life Care Medical Inc., and to further develop and support the provision of EMS within Logan County. During the development of the project it was further made clear that the Logan County Board of County Commissioners, the ambulance licensing authority as defined by C.R.S. 25-3.5-301, are very interested in developing viable long-term solutions to ensure that high-quality EMS services were provided to the residents and visitors of Logan County. These EMS services include both 911 emergency response services and inter-facility transportation of patients to and from the Sterling Regional Medical Center (SRMC).

The EMTS Section, pursuant to authority provided in C.R.S. sections 25-3.5-102 and 603 to assist local jurisdictions, recruited an EMTS consultative visit team to evaluate the Logan County system and to make recommendations for improvement. Analysis of the current system included interviews with all primary stakeholders in the current EMS system, review of available system data, and comparison to other EMS systems within Colorado. Overall, the state of the current system was analyzed using the 15 essential EMS system components contained in the 1996 National EMS Agenda for the Future, published by the National Highway Traffic Safety Administration. These components serve as the basis for a number of statewide and regional planning activities and are further referenced in 6 CCR 1015-4. Finally, both short and long-term recommendations are made for improvement to the overall Logan County EMS system, including the treatment, transportation, communications and documentation subsystems addressed in C.R.S. 25-3.5-101 et seq.

In order to accomplish this EMTS Consultative Visit, a Memorandum of Agreement (MOA) was entered into between CDPHE and the major EMS system stakeholders within Logan County, which assured participation with the consultation process. The EMTS Section subsequently authorized approximately \$20,000 to conduct the review and developed a contractual relationship with the Northeast Colorado Regional Emergency Medical and Trauma Services Advisory Council (NCRETAC) to serve as the fiscal agent for the project. Project management for the EMTS consultative visit was provided by the CDPHE EMTS System Development Coordinator and a team of five seasoned EMS leaders. In addition the state EMTS Medical Director also assisted with the review. Of the team of five experts, three were selected from outside the region and two were selected by the NCRETAC. In addition to these team members, the NCRETAC Coordinator, Jeff Schanhals, has been instrumental to the success and support of the project team.

Logan County Geography and Demographics

Logan County, Colorado encompasses 1,845 square miles on the northeastern plains of Colorado and is named for John A. Logan, a distinguished officer who fought in the Mexican-American War and American Civil War. John Logan was also a member of Congress and Senator from Illinois. Logan County had a 2009-estimated population of 20,772 in 8,739 households according to the U.S. Census Bureau. Overall population density is 11 persons per square mile. Primary economic drivers in Logan County include agriculture, regional retail and services, and governmental services including

Northeastern Junior College (NJC) and the Sterling Correctional Facility operated by the Colorado Department of Corrections. As of January 2010, the correctional facility inmates accounted for approximately 2,500 of the 20,772 total population. The county seat of Logan County is the City of Sterling that encompasses 6.9 square miles with an estimated 2008 population of 12,800 or approximately 1,800 persons per square mile. Sterling is one of the larger cities in the region and serves as a retail and services hub of northeastern Colorado and portions of southwest Nebraska. Logan County is transected by Interstate 76, one of two interstate highways with that numerical designation that serves as a major route that runs 188 miles between I-80 near Big Springs, Nebraska and I-70 in Arvada, Colorado. Logan County also contains portions of U.S. Highways 6 & 138 as well as a number of state highways. The North Sterling State Park is located in Logan County and virtually no land area is administered by the federal government within the county. Logan County also contains a number of railroad facilities and Sterling serves as a regional rail hub. Sterling Municipal Airport is the only general aviation airport located within the county. Smaller incorporated communities within Logan County include Crook, Fleming, Iliff, Merino and Peetz. The total assessed valuation of Logan County in 2009 was \$272,053,460 with \$658.5 million in retail sales reported in 2007.

Emergency services within Logan County are provided by a variety of agencies. Law enforcement agencies include the Sterling Police Department, Logan County Sheriff, and Colorado State Patrol. Fire Departments include the Sterling Fire Department, Crook Fire Protection District, Fleming Fire Protection District, Merino Fire Department, and Peetz Fire Protection District. The Sterling Rural Fire Protection District does not directly operate any fire equipment, but does encompass a large area around Sterling in southwest Logan County and contracts for service with the Sterling and Merino Fire Departments. A portion of southeast Logan County is also served by the Haxtun Fire Protection District headquartered in Phillips County. EMS first response services are provided by all fire departments with ambulance response and transportation provided by Life Care Medical Inc. Air Ambulance and specialized critical care inter-facility ground transport service is provided by a number of services, however, North Colorado Medevac appears to be the primary provider in most cases. The Sterling Regional Medical Center, operated by Banner Health, is the only hospital in the county. The Sterling Emergency Communications Center (SECC), operated by the City of Sterling, provides 9-1-1 answering and all local emergency dispatching services. Emergency management coordination is managed by the City of Sterling for both the City of Sterling and Logan County by intergovernmental agreement. Logan County Government is responsible to oversee the provision of ambulance service through another intergovernmental agreement defining essential services established with the City of Sterling in 1989.

Emergency Medical and Trauma Services Providers

Sterling Regional Medical Center

Sterling Regional Medical Center (SRMC) serves as the focal point for health care services in Logan County. SRMC is a full-service, 36 bed, acute care hospital and is one of 22 hospitals operated by Banner Health, a non-profit corporation headquartered in Phoenix, Arizona. SRMC is currently designated as a Level 3 trauma center by the State of Colorado with 24/ 7/365 general surgery capability and operates a 9 bed Emergency Department (ED) with approximately 8,400 ED visits annually. The ED is normally staffed with a physician and 2 registered nurses. In addition to emergency care, SRMC provides a full range of imaging and laboratory services as well as obstetrics, nursery, orthopedics and cancer care services. SRMC also serves as a primary hospital for Washington County, Colorado as well as many communities in southwestern Nebraska. While SRMC receives some patients from smaller hospitals in the region, most patients requiring specialized services not available locally are transported to hospitals in the Greeley, Fort Collins and Denver metropolitan areas. SRMC transfers out an average of 200 - 210 patients annually by ground or air ambulance.

Life Care Medical Inc.

Life Care Medical is a privately held company organized as a Sub-chapter S corporation under Chapter 1 of the Internal Revenue Code and managed as a family business by longtime Sterling residents Douglas and Dana Smith. Life Care was formerly known as Logan County Ambulance Inc. and was acquired by the Smiths in 1992 from the previous owners. Life Care is the only licensed ambulance service in Logan County. It provides ambulance response and transport services to all of Logan County, as well as portions of far eastern Weld County. Life Care's emergency response operations are governed by a contract with Logan County Government that includes a \$90,000 payment to Life Care to support the availability of essential EMS services. For 2009, Life Care reported slightly over 1,700 total responses with approximately 1,300 patients transported. Of the total transported, 200 – 300 were inter-facility transports. Life Care annually charges approximately \$2.0 million for services of which \$1.3 million is lost to bad debt or contractual write-offs. The company maintains a fleet of 6 ambulances, and operates with a staff of 6 full-time and 18 part-time employees at all EMT levels. Overall staffing consists of 4 paramedics, 4 EMT-Intermediates and 16 EMT-Basics according to 2010 CDPHE profile information. 2009 communications center data indicated Life Care's response time from dispatch to arrival on-scene was within 12 minutes or less 90% of the time, surpassing the state requirement for rural areas of 20 minutes or less, 90 percent of the time referenced in 6 CCR 1015-4, Chapter 2.

Sterling Fire Department

The Sterling Fire Department (SFD) serves 600 square miles of Logan County including the City of Sterling and a large portion of the Sterling Rural Fire Protection District (SRFPD). SFD provides fire suppression, hazardous materials response, technical rescue and EMS first responder services and reports approximately 1,500 total calls for 2009. SFD has an Insurance Services Organization (ISO) rating of 4 on a 1 - 9 scale and operates out of one station located in downtown Sterling. It is estimated that 85% of SFD responses are EMS related and SFD responds to all 9-1-1 requests for EMS service

within its jurisdiction. The department has an annual budget of \$1.4 million mostly funded by the City of Sterling. Approximately \$135,000 of the budget is provided by the SRFPD. SFD has an authorized strength of 16 full-time and 30 part-time personnel. The full time paid staff consists of one Paramedic, four EMT-Intermediates, and the remaining are EMT-Basics. SFD uses a 48 hours on-duty / 96 hours off-duty staffing pattern involving three shifts of personnel. Each of the three shifts normally staffs 4 full-time employees supervised by a lieutenant. Communications center data indicated 90% of 2009 responses from dispatch to on-scene time were conducted in 5 minutes or less.

Crook Fire Protection District

The Crook Fire Protection District encompasses approximately 380 square miles in the northeast corner of Logan County, in and around the small community of Crook. The population of the district is estimated at 2,000 residents with 128 in the town of Crook. The Crook fire station is a new facility that opened in 2007 that also serves as a community center and recreation facility. The district's response area includes 20 miles of I-76 and the department responded to 96 requests for service in 2009. The department has volunteer personnel primarily trained at the first responder level, but does have 1 EMT-Intermediate and is anticipating having 4 EMT-Basic volunteers available shortly. The department has a mill levy of 9.0 mills that generates approximately \$120,000 annually. The department has also recently acquired a used Type I ambulance from the Saint Louis area that is used as the primary rescue vehicle and can be used to transport patients if needed.

Fleming Fire Protection District

Fleming, Colorado with an estimated population of 426 is the second-largest municipality in Logan County. The Fleming Fire Protection District encompasses approximately 275 square miles in the southeast portion of the county. The district has 16 volunteer response personnel with 2 EMT-Basics and 2 first responders. The district responded to 50 requests for service in 2009. About 25 of these requests were EMS-related. The district currently charges a 6.0 mills property tax levy, which generates an annual budget of approximately \$68,000. While Fleming does have a fully equipped used ambulance in its fleet, they do not transport patients except in extraordinary circumstances. In 2009, Fleming responded to 90% of requests in 13 minutes or less (dispatch – on scene)

Merino Fire Department

The Merino Fire Department is a volunteer fire department that is operated by the town of Merino, and is financially supported by the Sterling Rural Fire Protection District. The Merino Fire Department covers an area of approximately 128 square miles in and around the Town of Merino. The department receives an annual budget of approximately \$25,000 from the SRFPD and various in-kind services from the Town of Merino. In 2009 Merino responded to 71 calls with a 90% response time (dispatch – on-scene) of 8 minutes. The department currently has 3 certified EMTs and a number of medical first responders.

Peetz Fire Protection District

The Peetz Fire Protection District provides emergency services for approximately 500 square miles with a population of 200 in the northwest corner of Logan County in and around the town of Peetz. The district charges a mill levy of 6.4 mills that in combination with intergovernmental revenue generated a budget of approximately \$170,000. The district has 15 volunteers with no EMTs currently. In 2009, Peetz responded to 48 requests for service that were answered in 21 minutes or less (dispatch – on-scene) 90% of the time. It is estimated that 60 – 70% of PFPD responses are EMS in nature. Peetz, while operating a rescue vehicle that could transport a patient in extreme circumstances, is the only department that does not currently have an optimum transport-capable unit in the event it was needed.

Sterling Emergency Communications Center

The Sterling Emergency Communications Center (SECC) serves as the public safety answering point (PSAP) for Logan County and provides dispatching services for all local emergency response organizations. The center is operated by the City of Sterling and handles approximately 26,000 calls annually for police, fire and EMS services. The department is a stand-alone city agency with oversight through the combined city and county Office of Emergency Management (OEM). SECC has 12 full-time communications staff and normally operates with 2 telecommunicators 24/7. Most response agencies in Logan County are utilizing the statewide Digital-Trunked Radio (DTR) system for primary communications with a few agencies still utilizing VHF radio equipment for operations or paging. No radio coverage or access to 9-1-1 issues were noted.

The SECC has an annual operating budget of \$500,000 with approximately \$240,000 contributed by Logan County, primarily for Sheriff's Office dispatch services. The communications center is currently funded by contributions from major users including the City, County and Life Care Medical. Life Care is currently in arrears on its payments, which is a matter of significant concern to the City of Sterling. Additionally, the Crook, Peetz and Fleming Fire Districts do not pay any allocation to the communications center. The SECC will have moved into a new facility by the time this report is finalized and the New World™ computer-aided dispatch (CAD) system appears to adequately capture the data needed to evaluate operational aspects of the local EMS system.

Analysis of Logan County EMS System Elements

System Finance

There was universal agreement among the review team, and a widespread impression within the local emergency response community, that the EMS system in Logan County is inadequately funded. In particular, the system does not have adequate resources to meet the service plan as outlined in the December 29, 2005 "Request for Proposal Ambulance Service" and the January 29, 2009, "Agreement for Services." While this lack of funding primarily affects the ambulance transport provider, the communications center, a number of the medical first response providers and the local hospital are also

adversely affected by the financial condition of the system. It is remarkable that a private ambulance provider has actually been able to survive in Logan County for decades with a relatively low call volume, poor collection rate and only limited financial support for local government. There is no other community in Colorado of this size, or smaller, served by a private, for-profit ambulance service. There are, however, a number of private not-for-profit services serving communities this size, albeit with some public subsidy. Considering current call volume and collections levels, it is unreasonable to expect an ambulance transport provider to provide reliable, high quality ambulance service with modern equipment without public support. While it appears that system costs discussed in 2009 may have been somewhat overestimated, the review team's calculations indicate that a reliable, high quality EMS system would require up to \$750,000 in public financial support annually. Additional information on this calculation is contained in Appendix A.

Life Care Medical, while not well capitalized, has leveraged limited financial resources to provide the community with a serviceable fleet of vehicles and medical equipment that meets the current standard of care. Life Care has accumulated a significant amount of debt, primarily for the purpose of maintaining and upgrading capital equipment. Additionally, Life Care is also financing some additional capital equipment, specifically power cots, on behalf of other agencies within the Logan County EMS system. From an operational costs standpoint, it appears that Life Care is able to adequately fund its ongoing operational expenses, but is not in a position to increase its staffing levels or substantially modify the current staffing mix. The review team also found that stakeholder concerns regarding Life Care's ability to pay staff in a timely fashion were historically accurate, however, payment of payroll obligations has not been an issue in recent years. While significant concern was also expressed by stakeholders that Life Care Medical could "go out-of-business tomorrow," our financial assessment did not indicate that scenario was likely in the short term and would almost certainly not occur without warning. That being the case, the greatest threats to the system would be the loss of financed capital assets if debt payments were not maintained or a significant loss of equipment due to an accident (i.e. unforeseen circumstances, natural disaster etc.)

It was evident, however, that aside from the Sterling Fire Department, EMS salaries in Logan County are not competitive, and a large portion of the system relies on part-time or volunteer providers to meet EMS response capacity requirements. Overall the system is not in a position to deploy state-of-the-art equipment, nor is it well positioned to be an employer-of-choice for recruitment and retention of EMS employees. That being the case, the system has managed to leverage long-time local residents, part-time employees and recent NJC graduates to staff the current system.

Ambulance transport fees charged by Life Care Medical are commensurate with other agencies in the region and throughout the state with an average ambulance bill of \$1300. The collection rate, estimated at 30% is also somewhat low, but not outside the range of collection rates reported by communities with similar demographics. Life Care currently outsources its billing and collection function to Wakefield and Associates, a Fort Morgan firm that is well respected in the region. There is also a clause in the current Agreement for Services between the county and Life Care that requires the contracted ambulance

provider transport Logan County employees, police officers and firefighters free of charge irrespective of ability to pay or existing insurance coverage. This is a concerning situation since it precludes charging some individuals with insurance coverage in the context of an already challenging payer mix. It also raises potential compliance concerns with existing anti-kickback regulations, 42 U.S.C. §1320a-7b enforced by the Center for Medicare & Medicaid Services (CMS).

Of additional concern is the currently unmet requirement for the ambulance contractor to secure a \$250,000 performance bond and a \$250,000 letter of credit. While this requirement is a reasonable attempt to provide the community with some security in the event of ambulance contractor failure, Life Care has been unable to find anyone to underwrite the bond mostly due to the small size of the ambulance company. Considering Logan County has substantial influence over the ambulance contractor through contractual oversight and monthly payments to the contractor, it would likely be more effective to improve oversight mechanisms in lieu of requiring payments to an outside bond provider.

Most of the fire departments appear to have sufficient tax revenues to maintain their operations at current levels. However, a number of fire departments do not have adequate funds to maintain and improve their EMS response equipment, or to increase their levels of medically trained personnel. Of the departments, Merino expressed the most financial concern. Several influential members of the different fire services did indicate that existing property tax revenues were levied expressly for fire fighting and there was a strong policy reluctance to use those funds for EMS, particularly ambulance transport.

Finally, it should be noted that a fair amount of current EMS system capacity and resources are devoted to availability for long distance inter-facility patient transport needs in addition to 9-1-1 emergency responses. While far from universal, some hospitals in Colorado do provide direct financial support to ambulance services in order to guarantee availability of that service. Exploring this option may be of value to the current and future EMS system in Logan County.

Legislation and Regulation

Logan County Government is to be commended for taking an active role in the regulation and oversight of the local EMS system. Logan County's oversight has developed and increased over the years due to a number of factors. Logan County is responsible for the provision of ambulance service in accordance with a 1989 Primary Intergovernmental Agreement between Logan County and the City of Sterling. The county has also gained significant insight into EMS issues subsequent to a period in the mid-2000s when multiple ambulance services were operating in Logan County. Most importantly, however, the county directly manages a contractual relationship with the ambulance service provider.

Overall, Logan County EMS Resolution 2006-1 meets or exceeds the requirements of C.R.S. section 25-3.5-301 establishing ambulance licensing requirements and provides an effective framework for the provision of ambulance service throughout the county. Additionally, Logan County exercises its authority under C.R.S. section 30-11-107(1)(q)

to contract for ambulance services through its agreement for services with Life Care Medical.

While the necessary framework and agreements are in place, it is clear that the Logan BOCC is not satisfied with its ability to oversee and influence the provision of EMS services, nor are they convinced that payments to Life Care Medical are being spent with adequate accountability. Conversely, Life Care management is also frustrated with the fact that it is difficult for them to determine what the BOCC's expectations are, and how they can validate that they are meeting those requirements.

From a regulation and contracting perspective, the existing contract and associated RFP and RFP response documents provide a reasonable framework for the performance of the ambulance provider. While the contract is comprehensive, it is clear that additional contract monitoring expertise would be useful to both the BOCC and the contractor. The one area of the contract that does not meet generally accepted standards is the response time performance requirement that specifies only a "dispatch to enroute" time requirement. While the justification for this approach was explained to the review team, it does not reflect the industry standard of a customer-focused response time that is normally measured from time of dispatch to arrival on-scene. Considering the contractor is well within the state requirement of dispatch to on-scene time interval of 20 minutes or less 90% of the time (6 CCR 1015-4), it may be appropriate to adopt this standard instead. Due to the location of the ambulance base, there could also be a contract requirement regarding the dispatch to enroute time interval. In addition, ambulance performance contracts typically contain provisions that allow for exemptions from response time standards when compliance is not in the interest of safety (i.e. inclement weather, areas temporarily inaccessible due to passing trains or construction).

It was also evident that the current ambulance inspection program delegated to the Sterling Fire Department is inadequate as SFD staff have limited expertise in this area as well as a substantial conflict-of-interest concern. The County needs to have the ambulances inspected by a qualified independent inspector that answers to the County government. The review team was pleased to discover a multi-county inspection program was being explored and is now in place in conjunction with Weld County and the NCRETAC.

On a strategic level, the BOCC has expressed strong interest in establishing an EMS system model that allows the citizens of Logan County to receive reliable and high-quality EMS services in a manner that is cost effective and financially viable over the long term. The BOCC has also indicated openness to investigating appropriate revenue streams, including the Logan County General Fund, to support EMS delivery. The BOCC was instrumental in establishing the 2009 EMS stakeholder group that eventually recommended a fire-based EMS model, and they continue to be interested in that EMS delivery model. The review team did find, however, that a more thorough investigation of other delivery models would also be appropriate.

Integration of Health Services

The Logan County EMS system currently enjoys a high level of integration across the emergency health care system. The current system has a well-developed medical first response program with all local fire departments. The local EMS education provider, Northeastern Junior College, is well connected to both the local fire and EMS communities. Additionally, Life Care Medical maintains a close relationship with Sterling Regional Medical Center and works closely with them to meet its transport needs. Life Care Medical also appeared to have a well-regarded program to support local events, particularly school athletic events. Life Care Medical often provides this service at no cost.

The Logan County EMS Council is a productive forum to monitor, discuss and resolve EMS system issues. The EMS Council also appears to have representation from all of the appropriate stakeholder groups. It was not clear to the review team, however, how the 2009 EMS stakeholder group that discussed future EMS issues and established the ballot initiative fit into the existing EMS Council structure.

Areas that seemed to be lacking integration were medical direction and clinical care described in more detail below. It was also noted that the Logan County EMS system did not have significant interaction with neighboring jurisdictions other than opportunities provided through the NCRETAC.

Clinical Care

Most EMS stakeholders within Logan County were pleased with the level of clinical care currently being delivered by out-of-hospital providers. While the overall number of paramedic personnel was low, the system has leveraged this limited number in combination with EMT-Intermediates, EMT-Basics and numerous medical first responders. The one area where the lack of paramedics was noted was in the area of critical care transport. Hospital nursing staff is sometimes required to assist with out-of-county transports. Overall, this contingency to use hospital-based staff seems to be working reasonably well and serves the needs of the patients. Some concerns were also raised regarding Life Care Medical's use of potentially unprepared providers "fresh out-of-school," however, no evidence of patient poor outcomes were discovered.

It was evident that certain aspects of clinical care including new employee orientation, protocol development and ongoing quality improvement were not sufficiently addressed. In particular, knowledge of the location and content of clinical protocols, much less their ongoing maintenance, was not well known to EMS providers. System oversight by multiple medical directors was also not well coordinated. Those issues aside, the review team believes that the clinical care delivered by all agencies within the Logan EMS system is within the current standards of EMS care.

Human Resources

As noted earlier, the economic and demographic factors at play in Logan County do not create an environment where local EMS agencies can position themselves as "employers of choice" to attract the best EMS professionals from throughout the state. While it was apparent that providers employed by the City of Sterling had attractive salary and benefits packages compared to many other local employers, Life Care Medical employees had lower salaries and more limited benefits commensurate with many other small businesses in the area. Clearly, this situation poses an ongoing challenge to recruitment and retention, particularly for providers trained at EMT-Intermediate and Paramedic levels. While this challenge is not unique to EMS or rural communities, it nonetheless will likely require solutions that capitalize on the use of committed local residents in combination with more attractive salary and benefits packages.

While salary and benefits are a challenge, Northeastern Junior College has a well-subscribed EMT education program that generates a reasonable number of new EMTs on a regular basis both from the local community and through the NJC full-time student base.

Another matter of significant discussion within the community was the utility of a fire-based EMS model where fire suppression and EMS staff could be cross-trained within one agency. In general, this is a viable EMS model that functions well in a number of locations across the state. There are, however, some concerns that have not yet been addressed by the advocates of this approach in Logan County including:

- Considering an EMS to fire response ratio of almost 4:1, what is the impact on fire protection capacity if the additional workload of EMS scene to hospital transport is undertaken? In particular, the impact on fire capacity of a 20-minute EMS first response encounter versus an additional 60-minute, or greater, EMS hospital transport?
- One of the essential services provided by the current ambulance transport provider is inter-facility ambulance transportation. This service is not within the current portfolio of fire department responses and these services would require additional time, staff, vehicles, training and clinical oversight to manage these complex patients requiring advanced-level care not accounted for in the previously proposed fire-based plan.

Life Care Medical currently provides 9-1-1-ambulance service throughout Logan County, as well as inter-facility transportation for patients to destinations along the Front Range urban corridor. While the proposed fire-based model somewhat considered these concerns, it expected the outlying fire districts to take on larger responsibility for 9-1-1 ambulance service and inter-facility transportation. It was clear to the review team, however, that the capacity on the part of the outlying districts to regularly provide 9-1-1-ambulance service in their response areas, or to assist with long distance transports, did not exist. The lack of willingness of members of small volunteer rural fire departments to provide these services on a regular basis is common statewide. These smaller fire and EMS services usually do not have the ability to release key EMS providers for extended

periods of time, both due to personal economic impact, as well as the ability to provide service to their own communities.

It is also worth noting that fire-based EMS models, while popular and effective nationally and statewide, are not commonplace in communities where a large amount of EMS activity is related to inter-facility transfers. In communities that utilize fire-based EMS models, most inter-facility work is often handled by private ambulance services. These communities generally have a larger patient population that can generate sufficient revenues to sustain a separate inter-facility patient transport system.

Another factor that was not addressed deals with firefighters who drive the ambulance. It was reported by a majority of the fire departments that for critical calls members of the fire department were utilized to drive the ambulance when the second team member from Life Care was needed for patient care. There was no discussion of how the driver was selected for a specific call or what level of operator training was required. There is also a question if firefighters driving ambulances are covered by Life Care's auto insurance liability policy that requires further investigation.

Finally, it is clear that the leadership of emergency services organizations in Logan County is quite variable in their level of management and leadership training. As with most emergency services and health care, the "school of hard knocks" has been the leadership training program that has been utilized for many of the local emergency response organizations. Overall, most organizations have adapted well, but a greater emphasis on management and leadership training would be beneficial throughout the system.

Evaluation

Ongoing evaluation of the EMS system in Logan County is largely nonexistent. Opinions regarding components of the local EMS system were almost universally based on assumptions and personal experiences. While some data, such as communications center records, does exist within the system, it was largely not used by system participants, regulators and planners. In particular, the team did not find evidence that the EMS Stakeholder process convened in 2009 used objective or historical measures to specify or select the appropriate future EMS system for Logan County. By contrast, most proposals presented used generic "talking points" documents or assumptions from the current system to develop future models. It is also clear, as noted above, that ongoing monitoring of clinical care is mostly limited to complaint-driven processes.

Medical Direction

There currently are two EMS Medical Directors in Logan County, Dr. Patrick Miller and Dr. Jeffrey Bacon. Dr. Miller provides active medical direction for Life Care Medical field personnel. Dr. Bacon provides the medical oversight for Sterling Fire Department and NJC. Both medical directors have relationships with these agencies that meet the Board of Medical Examiners regulations section 3-CCR 713-5 Rule 500 for medical directors as follows:

Provide monitoring and supervision of the medical field performance of each supervised EMS service agency's department-certified EMTs. This responsibility may be delegated to other physicians or other qualified health care professionals designated by the medical director. However, the medical director shall retain ultimate authority and responsibility for the monitoring and supervision, for establishing protocols and standing orders and for the competency of the performance of authorized medical acts.

Establish a medical continuous quality improvement program for each EMS service agency being supervised. The medical continuous quality improvement program must assure the continuing competency of the performance of that agency's department-certified EMTs. This medical continuous quality improvement program shall include, but not necessarily be limited to, appropriate protocols and standing orders, and provision for medical care audits, observation, critiques, primary and continuing medical education and direct supervisory communications.

Ensure that each direct verbal order, written standing order or protocol is appropriate for the certification and skill level of each of the individuals to whom the performance of medical acts is delegated and authorized. The medical director shall be familiar with the training, knowledge and competence of each of the individuals to whom the performance of such procedures is delegated.

The medical oversight relationship for the remainder of the county's agencies appears to be more ambiguous. In particular, medical direction arrangements do not seem to be clear amongst all parties involved and should be formalized. This would include written medical direction agreements, particularly with outlying fire agencies, updating of medical direction records with CDPHE, and establishing medical protocols, quality improvement standards and job descriptions for any ancillary personnel assisting the medical directors.

Both physicians practice in the community, and both are well respected and appreciated by local EMS agencies. Their involvement with their agencies is fairly limited based on time constraints. Neither is an active participant in the medical direction committee (NEPAB – Northeast Physician Advisor's Board) sponsored by the NCRETAC. It is clear no formal coordination mechanisms exist between Medical Directors and neither is actively involved in providing advice on other EMS system issues. It appears little, if any, effort has been expended on standardization of clinical protocols, development and updating of protocols, or system-wide quality improvement activities.

Communications

Most emergency response activities in Logan County are coordinated using the statewide digital-trunked radio (DTR) system. A migration to this system has occurred over the past 5 years. Life Care Medical also uses DTR radios leased through Logan County. This leasing arrangement is an effective method to integrate the private ambulance provider into the broader public safety communications system. Due to the relatively flat

topography of Logan County, it appears this system provides for effective emergency communications and no complaints were raised regarding coverage or system capacity issues. In addition to the DTR system, some paging and notification capacity also exists on VHF and/or UHF radio networks. As of the publication of this report, the communications center, currently operating in a cramped facility within the Sterling Police Department offices, will have moved to a new facility with significantly more space to operate effectively. Some concern was raised regarding turnover of dispatchers, however, that is not uncommon amongst communication centers throughout the state. By contrast, the communications center leadership team had significant experience and expertise.

The most concerning aspect of the Sterling Emergency Communications Center was its structure and financial contribution model. As a department of the City of Sterling, with major funding support by the city, the E-9-1-1 Authority, and Logan County, the center is primarily directed by the city along with input from the other major contributors. Life Care Medical is also a participant in the IGA that funds the center. Life Care is assessed an annual allocation based broadly on percentage of use currently in the \$35,000 range annually. There are two concerns with this arrangement that became obvious to the review team including:

- Life Care Medical is not currently in a position to afford this level of dispatch service fees and continues to accrue an unpaid liability to the City of Sterling. The City of Sterling is correspondingly hesitant to terminate dispatch services as this would endanger public safety.
- Life Care Medical, as well as the Crook, Fleming and Peetz Fire Protection Districts, are not participants in the oversight or funding of the communications system.

This structure calls into question the overall equity of the financial contribution model. A wide variety of funding models for communications centers exist. All have some inequities but the best models keep them to a minimum. A change in paradigm where the Communications Center exists for the benefit of the public at large, rather than the agencies that are dispatched, funded by a single, universal fee may merit consideration. On the surface, Sterling residents appear to pay twice for dispatch services, through taxes assessed by the City and County that these governments then pay as Communication Center fees, while County residents only pay once. Arguably, Sterling residents should pay more because most of the call volume originates in the City but its proportionately larger contribution also subsidizes the readiness cost for the infrastructure necessary to serve the outlying areas. In addition, fees assessed on the basis of call volume encourage agencies to use alternate dispatch pathways. The impact may be minimal if small agencies receive calls at their station and self dispatch but the system would lose a wealth of valuable information if the ambulance provider used a private number for dispatching its inter-facility calls. Based on these observations, it may be reasonable for the parties involved in the management of funding of the communications center to reevaluate the 1998 Intergovernmental agreement that serves as the basis for the funding and consider integrating an end-user focus to communications with the implementation of a more patient-focused emergency medical services system.

Information Systems

While the focus of the EMTS consultative visit was not targeted to evaluate the information systems component, the review team did, however, receive useful data from the New World computer-aided dispatch (CAD) system operated by the Sterling Emergency Communications Center. Life Care Medical currently uses the Ortivus Sweetsoft® product for patient care and billing integration. Life Care also currently reports call data to CDPHE. The Sterling Fire Department utilizes the FireHouse® reporting platform. While most of these software tools are not currently integrated, all are equipped with reporting tools that could be used in a more comprehensive manner today, and offer opportunity for better integration and data analysis in the future.

Public Education

The failed 2009 ballot measure to create and fund the Logan County EMS Authority was likely the most comprehensive effort to educate the public on the local EMS system undertaken in decades. While not a perfect process, the development of models that led up to the creation of the ballot measure likely engaged many constituencies that were not previously involved in EMS and also served to re-engage many EMS system stakeholders. While it is unfortunate that polarity within the EMS system was placed on public display, there is no doubt that this public engagement, if paired with a viable and responsible EMS system vision, may serve as an excellent springboard for future system change.

Additionally, public CPR and first aid programs are available locally through the local American Red Cross service center, a division of the Centennial (Northern Colorado) Red Cross Chapter. Finally, Life Care Medical units are frequently engaged in "stand-by" service at community events, which also serves as an opportunity to make the public aware, and form an impression of local EMS.

Education

Emergency Medical Services providers in Logan County generally have reasonable access to initial training and continuing education. The delivery of education is consistent with other communities with similar training needs. Northeastern Junior College is an EMS training center authorized to provide initial training at the First Responder, EMT-Basic and EMT-Intermediate level. The College also holds training group approvals to supply continuing education at the EMT-Basic, EMT-Basic/IV and EMT-Intermediate levels. Northeastern Junior College offers several initial EMT-Basic classes each year on campus or at a provider agency through its outreach program to serve the needs of local EMS agencies and the resident student population. Northeastern Junior College and Morgan Community College have worked out an agreement to alternate the site of an initial EMT-Intermediate course each year so that training is available within a reasonable distance. It is further expected that the new AEMT level will be offered by NJC when it becomes available.

Continuing education classes are also offered to accommodate the needs of local EMS provider agencies. Sterling Regional Medical Center and Life Care Medical, Inc. serve as clinical sites for students enrolled in EMT classes at Northeastern Junior College. The College reports good working relationships with its clinical sites and both sites report

adequate patient volumes for students to complete the required number of patient contacts during their clinical experience. College EMS faculty also serve with local agencies.

Life Care Medical, Inc. is a Colorado Department of Public Health and Environment approved training group for EMT-Basic, EMT-Intermediate and EMT-Paramedic continuing education. EMTs from outlying areas report a standing invitation to regular continuing education sessions. EMTs and First Responders from the remote fire departments in Logan County reported a difficulty in obtaining regular on-going education and training. They did report the existence of two or three day refresher training, and cited a need for a monthly or quarterly continuing education program. Instructors for Life Care's program also teach for Northeast Junior College.

Although Life Care Medical noted that the selection of a continuing education topic might be related to an identified need, neither program demonstrated a strong relationship between continuing education and the quality improvement process at the agency or system level.

Mass Casualty

Like other areas, Logan County has the potential for a mass casualty event. The most likely sources would be a significant transportation incident, severe weather event or hazardous materials incident. Logan County and the City of Sterling operate a joint Office of Emergency Management through intergovernmental agreement that appears to provide exceptional coordination of disaster planning activities. The February 2007 version of the Local Emergency Operations Plan (LEOP) also provides a framework for the management of mass casualty events and designates SRMC as the health & medical lead agency in conjunction with Life Care Medical, the Northeast Colorado Public Health Department, Logan County Coroner and the Sterling Fire Department. System stakeholders also indicated that mass casualty drills occurred at regular intervals and that EMS system members participated actively. It was also noted that while Life Care Medical was delegated some key tasks in the 2007 plan, they were not mentioned early on with contact information or on the distribution page. In addition to the planning and exercise components, we also noted that between Life Care Medical and the outlying Fire Districts, significant reserve ambulance transport capacity of up to 8 ambulances exists within the system.

Prevention

Various agencies in Logan County provide a number of prevention programs on a regular basis. Most of these programs are undertaken by individual agencies and sometimes are coordinated by the EMS Council. Programs currently being presented include:

- Seat belt awareness checkpoints
- Child seat safety inspections
- Gun safety programs
- Child bicycle helmet training programs
- Drug abuse prevention programs
- Smoke detector checks

Overall, these programs are appropriate and well targeted to local needs. However, opportunity does exist for local agencies to collaborate further on these programs and to

coordinate these programs with the regional health department and NCRETAC initiatives in the future.

Public Access

Access to emergency services in Logan County is primarily through the 9-1-1 emergency telephone number. The Communications Center is equipped to receive automatic number identification (ANI) from calling parties and receives automatic location (ALI) information from landline callers as well as latitude and longitude information from wireless callers. Seven-digit emergency numbers may also still be available in some areas of the county. Overall, no issues with public access were noted in the system.

Research

No prehospital research is currently being conducted within the Logan County EMS system. Future research is possible, however, considering that Life Care Medical is reporting EMS data. Trauma registry data and ED discharge data are also being reported by SRMC. Considering these data sets, and Sterling's position as a small city within a rural area of the state, the opportunity for future research and benchmarking certainly exists as the system moves forward.

Logan County EMS - Vision of the Future

As the citizens of Logan County settle in for the evening of June 30, 2015, they can sleep well knowing they are protected by a state-of-the art EMS system that is a partnership working together on behalf of the community. At the heart of the system is the Logan County EMS Authority, which is comprised of membership from county government, multiple local governments, local fire districts and the local health care community. This board provides oversight to the system as a whole and has become responsible for medical direction, capital equipment, EMS communications equipment, continuing education services and quality improvement activities for all participants in the system. The EMS Authority also oversees the operational aspects of the EMS system including ambulance service and first response services.

The operational aspects of the system include an ambulance transport component that effectively serves both the 9-1-1 and inter-facility transport needs of the community. The combination of the inter-facility and 9-1-1 component allows for the efficient use of ambulance resources. The system maintains a paramedic unit 24/7/365 with an on-call ambulance 24/7/365 also available. Third calls are handled with part-time staff, callbacks or mutual aid. The ambulance transport provider was selected through an evaluation process and utilizes Authority owned equipment that is provided to the ambulance provider along with a sufficient amount of supplemental operational funding to operate at the levels described above. The Authority also provides capital and operational support to all of the agencies providing medical first response services and all agencies operate under a unified medical direction and quality improvement system. In the event the current ambulance provider chooses to cease providing this service, the EMS Authority is confident that infrastructure exists and could be easily transferred to a new provider. Correspondingly, the operator of the system is not hampered by the need to finance large

amounts of capital equipment and knows sufficient revenue will be available to ensure adequate coverage regardless of fluctuations in call volume or changes in payer mix.

The EMS Authority provides ongoing continuing education throughout the county and has a close relationship with initial education programs to ensure the continued development of a local EMS workforce. The EMS Authority has also adopted a public access defibrillator program throughout the county. The EMS Authority itself employs an administrator to monitor and report on the operations contract and coordinate the overall operations of the EMS system. The EMS Authority also contracts with a part-time Medical Director for all local EMS agencies and a full-time coordinator to manage quality improvement and continuing education activities.

The system ensures an ambulance is available 24/7/365 to the community with a second crew available within 10 minutes anytime the first crew is out. An on-call ambulance is also available within an hour for inter-facility transports. Agreements also exist between the EMS Authority and a number of participants to provide additional ALS and BLS ambulances in the event of a mass casualty event.

Short-Term Recommendations (1 Year)

Hire Qualified Part-Time Staff to Monitor Current Contract

The Logan BOCC would like to more effectively manage, oversee, and enforce its current contract for ambulance services. In addition, the current contractor is also frustrated that its compliance with the vast majority of contractual requirements was not recognized or appreciated. It is also evident that a large driving force behind the 2009 ballot measure was a desire for increased public accountability of the system as a whole. As an initial step, the community would benefit greatly from an EMS professional who could work with the BOCC and the ambulance operator to establish appropriate reporting metrics and report on compliance to the BOCC as additional system elements are being developed. Metrics would likely include operational, financial and potentially clinical reporting. It is estimated a consultant/advisor would be required for approximately 60 - 80 hours initially to establish the reporting systems and 10 - 15 hours monthly to analyze and report on the system to the Logan BOCC and other local government entities.

Establish EMS Authority

Under the statutory authority of local governments to create inter-governmental authorities contained in C.R.S. section 29-1-203, Logan County, the City of Sterling and all fire protection districts could establish a Logan County EMS Authority to oversee the provision of EMS within Logan County. This Authority should work closely with the BOCC to update the County EMS resolution to give the Authority the responsibility to effectively oversee the current and future EMS system. The Authority should also work to establish an appropriate public funding source for EMS services that does not currently exist. As mentioned in the vision, the purpose of the Authority will be to:

- Develop a mechanism to provide public funding to the EMS system
- Establish performance expectations for ambulance provider and overall EMS system

- Manage EMS facilities and capital assets
- Select and monitor the ambulance transport provider
- Establish a single medical direction provider
- Develop a capital expenditure plan and acquire necessary capital assets
- Become a participant in the Sterling Emergency Communications Center IGA
- Hire an administrator to coordinate the overall EMS system and associated performance of system participants.
- Hire or contract for a clinical, education and quality improvement coordinator

While it is clear that the Authority will need additional financial resources to carry out its full set of responsibilities, there is no reason why the Authority could not be used immediately to assist in the management of Logan County, NCRETAC and State grant funds currently coming into the system.

Determine and Appoint Key Stakeholders

Selection of EMS Authority board members will be critical. In addition to appropriate county, municipal and special district representatives, appointed representatives of the local medical community, NJC and the general public are essential to the success of the EMS Authority. Based on the makeup of the board, it may also be possible to replace or merge the existing County EMS Council with this board, or to utilize the EMS Council as a component of the Authority. What is essential however, is that no major constituency is left out of the Authority, all members are appointed for an appropriate term, and that no one constituency can “pack the room” when decisions are made.

Establish Ambulance Inspection Program

Considering that the proposed EMS Authority will be involved in the management of ambulance transport services, the team does not recommend the Authority also provide ambulance inspection services. While the overall responsibility for this function under C.R.S. section 25-3.5-302 resides with the BOCC, the actual inspection process is best accomplished using outside technical expertise that reports directly to the BOCC. The recent ambulance inspections conducted by local public safety providers on behalf of the BOCC is problematic and should be discontinued for a variety of reasons. The NCRETAC has offered to facilitate this process in conjunction with Weld County and we recommend that those efforts continue and be made permanent.

Medium Term Recommendations (1-2 Years)

Begin Acquisition and Management of Capital Assets

The elected and appointed leadership of the Logan County public safety community desires a reliable and stable EMS response system. One of the methods to ensure that stability is through public ownership of the EMS response infrastructure. If the major capital assets were to be owned and/or controlled by local government, operation of the EMS system could be contracted to any private or public-sector partner without fear that the failure of an operating contractor would require the community rebuild the system from scratch. This approach also has the added benefit of not requiring the operating contractor to make major investments in infrastructure that would be difficult to recover

within the useful life of the assets. It is also evident that a major financial issue in the system is the financing and debt service required to acquire and maintain state-of-the-art vehicles and equipment in an EMS market that is only marginally effective at meeting its operational expenses through ambulance fees.

The review team therefore finds it essential that the EMS Authority begin the process of acquiring capital assets, and be prepared to lease those assets to current and future ambulance providers. A significant amount of those assets could be acquired from the current provider, or the EMS Authority could purchase the current provider in its entirety if Life Care Medical desired to exit the market. Regardless, the EMS Authority would be well advised to leverage the assets currently available until sufficient resources are developed to implement a long-term capital replacement plan. This approach of publicly owned assets provided to public or private operators is currently in use in a number of locations across the country. While examples in Colorado are rare, Summit County Utah, Fort Worth Texas, and Wake County North Carolina are all areas where public facilities and/or assets are made available to either public or private emergency service providers. There is also precedent for a public agency buying out a private provider in Montrose, Colorado in the 1990's. The review team further recommends that it would be most appropriate for the EMS Authority to first acquire ownership of powered stretchers recently deployed countywide, followed by EMS vehicles and then capital medical equipment. Once operating assets are secured for the system, an analysis of EMS facility needs would be an appropriate next step.

Establish Standards for Future EMS System

The most significant issue with the 2009 EMS stakeholder process was the failure to establish key elements of a comprehensive EMS system and establish objective evaluation criteria prior to proposals being developed. As a result, a number of proposals that were difficult to objectively compare were presented based on the proposers perceptions of the needs of the overall system. It was also evident that cost limitations were not imposed, and most operational matters were left to opinion of the proposal writers as opposed to distinct performance criteria. Transition of the current system was also not adequately addressed and important inter-facility transportation needs were not accounted for effectively. To that end, the team recommends that the new EMS Authority, once established, take the time it needs to fully discuss the overall needs of the EMS system. In particular, the EMS system parameters need to be clearly defined with a cost analysis and performance standard developed for each aspect of the proposed services. Both the Authority and the BOCC should make a decision on the affordability of each component. Once this is completed, the stakeholders will be able to determine the parameters and scoring methods for future proposals prior to soliciting or accepting proposals to provide ambulance service.

Explore Viable Public Funding Streams for EMS System

The failure of the 2009 EMS Authority ballot measure is likely attributable to a number of factors including:

- Poor current economic conditions
- A competing and expensive ballot measure regarding the Sterling water system
- Perceived expense of the proposed system

- Public division on the proposal between current EMS providers
- Unclear basis or standards for the proposals presented
- Incomplete or sporadic participation of all stakeholders in proposed plan
- Perceived lack of public accountability
- Questionable value for tax funding
- Poor system design

Undoubtedly, a level of public funding will be required into the foreseeable future in order for the Logan County system to operate with acceptable coverage levels. Higher levels of funding will be needed to expand EMS system quality and to reach state-of-the-art levels. The points noted above will need to be addressed before the voters should be consulted again. It is the team's belief that the creation of the EMS Authority and the improved oversight of the existing county funds will address many current concerns while an appropriate funding proposal is developed. A sales tax or ad valorem (property) tax may be an appropriate funding mechanism into the future. While the sales tax option is attractive considering Sterling's position as a retail hub, the County has also seen a 50% increase in assessed valuation in the past two years due primarily to wind generation facilities. Correspondingly, this recent valuation increase would likely significantly reduce the mill levy required to fund the Authority.

Review BOCC EMS Funding Policy

The Logan County Government currently provides about \$90,000 annually to support Life Care Medical's operations and has historically supported the system financially at some level. The BOCC is concerned that its current funding be properly utilized, and the BOCC is hesitant to invest additional funding without clearly defined value and accountability. As mentioned, the team believes that establishing an EMS Authority, a vehicle to manage the system would be very useful regarding the oversight of current and future funds. While the BOCC likely has some ability to increase its funding level, it is possible that the best initial use of new funds may be acquisition of assets and replacing Life Care Medical with the county or the new EMS Authority as the EMS participant in the Sterling Emergency Communications Center. Considering the county's current responsibility to ensure ambulance transport services, the team recommends a robust initial conversation between the BOCC and the EMS Authority regarding how Logan County funds will be administered and/or transitioned before any transfer of responsibility occurs.

Review Communications Center Funding Structure

The facilities of the Sterling Emergency Communications Center will be state-of-the-art by the time this report is published. In addition to the physical facilities, the participants in the IGA that fund the center may wish to review the current staffing level of the center and consider the addition of some staff to allow for less "console time" for the training and supervisory staff. This may also become more important as dispatch data is used more extensively to evaluate the EMS system on an ongoing basis.

In addition, the current funding structure is not entirely equitable, and the assumption that a private ambulance provider could actually afford the level of financial participation required is problematic. To address these issues, the team recommends that all local users

of the center be assessed an appropriate fee and that the proposed EMS Authority replace Life Care Medical as the IGA participant. As previously mentioned, a new single funding structure administered by the County could also be considered. It is understood that this change may initially require additional funding from Logan County; however, we believe this additional expenditure of funds will support essential communications center and EMS system functions better than the current funding strategy.

Coordinate Medical Direction

The Logan County EMS system is relatively small and is currently overseen by two EMS Medical Directors. Throughout our site reviews the team noted that medical protocols were not readily available. It was also clear that few county or system wide quality improvement activities were in place. This absence of a quality improvement program clearly led to a variety of perceptions of the overall clinical quality of the system. While medical direction of the system is apparently compliant, significant opportunity exists for the medical oversight of the system to improve. In particular, we would recommend that a mechanism be established within the EMS Authority to meet regularly with all agency medical directors and to develop and maintain both a current set of protocols and a system wide quality improvement program. We would further recommend the Authority take responsibility to ensure all EMS system participants have readily available sets of protocols and that all physicians providing medical direction participate in the Northeast Physician Advisors Group sponsored by the NCRETAC. As the system develops, it may also be worthwhile for the Authority to investigate establishing, contracting for and compensating a single medical director.

Establish Relationships with Neighboring Jurisdictions

As a final short term recommendation, the review team would like to point out that the bordering communities in Morgan, Phillips, Sedgwick, Washington and Weld Counties all have well-respected EMS organizations that face similar challenges to those experienced in Logan County. It is also clear that systems already exists for counties and municipalities in Northeast Colorado to share resources such as transit systems. While the Logan County EMS system can be improved and made financially stable through the efforts of the local community alone, many opportunities, efficiencies and economies-of-scale could be realized through either limited or large-scale cooperation between EMS systems. We would encourage the EMS Authority to engage in conversations regarding EMS efficiencies with all neighboring jurisdictions as they embark on defining and selecting the future EMS system.

Long Term Recommendations (2 or More Years)

Seek Additional Public Funding

Seeking additional, stable and ongoing public funding for the Logan County EMS Authority is a critical strategic endeavor to secure the successful future of the EMS system. In order to properly equip the system, ensure appropriate support staff, coordinate and reasonably support operations for a full-service ambulance provider with adequate surge capacity, the overall Logan County EMS system will require

approximately \$750,000 in public support above and beyond what is available through ambulance transport fees.

Utilizing current Logan County assessment and sales tax figures, collecting an additional \$750,000 would require a sales tax of 0.37% or an ad valorem tax rate of 2.76 mills. As mentioned previously, it is imperative that all stakeholders who participate in the EMS Authority agree on the vision of the future, and be prepared to explain the proposed use and value of these public funds before another ballot measure is presented to the electorate. A pro forma budget for use of these funds is detailed in Appendix A.

Solicit Proposals for and Select Future EMS System

Once the EMS Authority is established and stable funding is secured, the EMS Authority should solicit proposals for a long-term (5-10 years) ambulance service agreement. Proposals to provide this service should be based on EMS Authority defined criteria for services with BOCC input and should address all essential components of an EMS system noted above. It is also recommended that a draft agreement for services be provided with the RFP materials. Additionally, scoring tools should be in place before an RFP is released and should be available to all potential bidders. Public and private sector organizations should be invited to submit bids. Strong consideration should be given to cooperative or regional bid proposals as well as existing Logan County Emergency Service providers, particularly if those proposals offer greater overall value. Once bids are received, the EMS Authority Board should evaluate them in a fair manner and a long-term contract should follow the award.

In the event a new ambulance provider is chosen in this process, the displaced existing provider(s) should be made whole to the extent possible for its past contributions. Current staff, the most valuable aspect of any EMS system, should be transitioned to the replacement provider whenever possible. Failure to treat current ambulance and other EMS staff fairly would likely cause irreparable harm to the local EMS community and poison both the transition and ongoing success of the system.

Implement Future EMS System Model and Authority Support Functions

Once a model is selected, a transition plan should be established and monitored by the EMS Authority, including appropriate staff. During a transition phase to a long-term provider, it may be necessary to increase the EMS Authority oversight by adding a half or full-time administrative position. Once the transition is completed, it may also be opportune timing to hire or contract for a full-time clinical, education and quality improvement coordinator that could bring together medical direction, quality improvement systems and continuing education for the system. In addition to those responsibilities, the EMS Authority may also want to consider what level of ongoing logistical and operational support should be provided to first response organizations throughout the County.

Summary of System Recommendations & Timeline

Type	Recommendation
Short-Term	Hire Qualified Part-Time Staff to Monitor Current Contract
Short-Term	Establish EMS Authority
Short-Term	Determine and Appoint Key Stakeholders
Short-Term	Establish Ambulance Inspection Program
Medium-Term	Begin Acquisition and Management of Capital Assets
Medium-Term	Establish Standards for Future EMS System
Medium-Term	Explore Viable Public Funding Streams for EMS System
Medium-Term	Review BOCC EMS Funding Policy
Medium-Term	Review Communications Center Funding
Medium-Term	Coordinate Medical Direction
Medium-Term	Establish Relationships with Neighboring Jurisdictions
Long-Term	Seek Additional Public Funding
Long-Term	Solicit Proposals for and Select Future EMS System
Long-Term	Implement Future EMS System Model and Authority Support Functions

APPENDIX A
EMS Authority Pro Forma Budget

	<u>Current</u> [1]	<u>Short-Term</u> [2]	<u>Sustainable</u> [3]
Revenue			
Ambulance Provider			
Fee For Service [4]	\$1,985,000	\$1,985,000	\$1,985,000
Uncollectable Accounts [5]	\$(1,390,000)	\$(1,390,000)	\$(1,329,950)
Total Ambulance Provider	\$595,000	\$595,000	\$655,050
Logan County / Authority			
County General Fund [6]	\$90,000	\$175,000	
Hospital IFT Support [7]			
New Public Funding [8]			\$750,000
Total Logan County / Authority	\$90,000	\$175,000	\$750,000
<u>Total EMS System Revenue</u>	<u>\$685,000</u>	<u>\$770,000</u>	<u>\$1,405,050</u>
Expenses	-	-	-
Ambulance Provider	-	-	-
Payroll [9]	\$380,000	\$400,000	\$631,000
Operating Expense [10]	\$270,000	\$235,000	\$230,000
Debt Service [11]	\$35,000	\$35,000	
Total Ambulance Provider	\$685,000	\$670,000	\$861,000
EMS Authority			
Contract Manager [12]		\$20,000	
Authority Administrator [13]			\$84,500
Administrative Support [14]			\$30,000
Medical Director [15]			\$12,000
Clinical Services Specialist [16]			\$58,500
Communication Center Fees [17]		\$35,000	\$40,000
Facility Rent [18]			\$92,000
Utilities [19]			\$12,000
Capital Acquisition [20]		\$30,000	\$150,000
First Response Agency Support [21]			\$50,000
Total Authority Expenses		\$85,000	\$529,000
<u>Total EMS System Expenses</u>	<u>\$685,000</u>	<u>\$755,000</u>	<u>\$1,390,000</u>
<u>Net</u>	<u>—</u>	<u>\$15,000</u>	<u>\$15,050</u>

- [1] Current column reflects the funding currently directed to Logan County EMS System exclusive of the first response fire agencies
- [2] The Short Term column represents the review team's recommendation for increased county funding until long term public funding is secured for the system.
- [3] The Sustainable funding column indicates a recommended budget after a long-term public funding mechanism is secured via sales or property tax.
- [4] Fee for service revenue represents current ambulance fee revenue from profile data with no projected growth in volume.
- [5] Uncollectable accounts represent bad debt and mandatory contractual write offs at current 70% level. Sustainable column projects decrease to 67% uncollectable level.
- [6] County General fund represents current and future subsidy until a long term funding mechanism is secured.
- [7] It is not uncommon in Colorado for hospitals to financially support some level of inter-facility transport capacity. While the team does not recommend this is necessary up front, the discussion may be worth having as the system evolves.
- [8] This level of public funding represents a countywide property tax of 2.76 mills or a sales tax rate of 0.37% at 2009 levels.
- [9] Payroll escalates from current levels to a proposed level of 1.5 unit hours 24/7/365. Sustainable projection estimates EMT rate of \$14/hr and Paramedic rate of \$22/hr plus 30% benefits.
- [10] Operating expense is estimated from current levels with communications center charges removed in future projections.
- [11] Debt service shown at current levels and projected to be removed once the EMS Authority acquires major capital assets.
- [12] Contract manager intended to oversee ambulance contract on behalf of BOCC and begin public acquisition of capital assets. Assumes \$85/hr consulting fee at approximately 16 hours per month plus travel.
- [13] EMS Authority Administrator replaces contract manager for the long term and oversees ambulance performance contract, capital asset management, medical direction, oversight of clinical and quality assurance programs, and first response coordination.
- [14] Administrative support estimated at \$30,000 annually and could likely be shared.
- [15] Medical Director services for entire system estimated at \$1000/month
- [16] Clinical Services Specialist could be shared with NJC and would be responsible for system quality assurance and continuing medical education for all system participants
- [17] Communications Center fees maintained at current levels and transferred to EMS Authority responsibility
- [18] Facility rent estimated for 4,000 square feet at \$23 per sq ft. could also be used for rent or financed purchase.
- [19] Estimated at \$1000/month
- [20] Capital acquisition begins at limited level and increases to system wide capital replacement schedule of vehicles and equipment
- [21] First response funding intended to provide equipment, supplies and training support to fire first response agencies.

APPENDIX B
STAKEHOLDER GROUPS INTERVIEWED

Crook Fire Protection District

Dr. Jeffrey Bacon

Dr. Patrick Miller

Fleming Fire Protection District

Life Care Medical Inc.

Logan County Attorney

Logan County Board of County Commissioners

Merino Fire Department

Morgan County Ambulance Service

Ms. Carol Brom

Northeastern Junior College – EMS Program

Peetz Fire Protection District

Sterling – Logan County Emergency Management

Sterling Emergency Communications Center

Sterling Fire Department

Sterling Regional Medical Center

Sterling Rural Fire Protection District

APPENDIX C

ASSESSMENT TEAM BIOS

Herb Brady is currently the Interim Chief / District Manager for the Windsor-Severance Fire Protection District. The District is a combination fire district of 110 square miles that answers approximately 1500 alarms per year. His role is to guide the District through the transition of a career / volunteer department facing a significant economic downturn.

His EMS career began in 1982 as a firefighter / EMT in Atascocita Texas. He later took a position as a Captain with the City of Galveston EMS and Jamaica Beach Fire Department. In 1987 he relocated to Colorado working as a Paramedic for Denver General Hospital, later taking a position with Weld County Ambulance and Air Life of Greeley. In 1996 he became a Vice President for Regional EMS Authority in Reno, Nevada. In this time he started a for-profit subsidiary for the not-for-profit Authority with the mission be the provider of comprehensive EMS within the northern Nevada / California region. Regional Ambulance Services, Inc. (RASI) managed an ALS ground service that responded to 35,000 calls annually. On behalf of REMSA his RASI operated Care Flight – a HEMS air operation that grew from 1 to 3 aircraft. Herb also worked to create SEMSA, a not-for-profit company designed to provide EMS in rural California communities such as Lassen County / Susanville California. The demographics of Lassen County and Susanville are very similar to Logan County / Sterling. SEMSA was designed as a solution for challenges similar to Logan's and other communities. RASI also ran its own communications center and EMT / Paramedic education program. Herb was appointed by Nevada Governor Guinn to chair the Nevada EMS Committee, and has served in many roles in injury / illness prevention, and community outreach. Upon his return home-to Colorado Herb worked as a Supervisor for Morgan County EMS. For the past 5 years Herb took on the task to turn-around the Ambulance department for Poudre Valley Hospital, which was suffering problems of service quality, employee satisfaction and financial viability. Today Poudre Valley Health System EMS is a financially viable lead organization in the region.

Brandon Chambers is currently serving as the Executive Director of the Trinidad Ambulance District (TAD). TAD provides 911 Emergency Medical Services and Inter-facility Transport Services to the citizens of, and visitors to Las Animas County, Colorado. With headquarters in Trinidad, TAD services a geographic territory of 4,800 square miles and responds to approximately 2100 calls for service annually. In ensuring the highest levels of EMS care, Mr. Chambers directs the activities of 25 career and 60 volunteer providers.

Mr. Chambers has been a Nationally Registered and State of Colorado Certified EMT-Paramedic since 1991 and has been employed in EMS since 1989. He has been a 911 Emergency Responder at all EMT levels including EMT-Basic and EMT-Intermediate. Mr. Chambers takes great pride in the fact that throughout his working life he has been associated with the medical field—his first job, at the age of 16, was as an orderly in a

local nursing home. He has served in both public and private sectors and for a four year period owned and operated a very successful regional ambulance service in Southeastern Colorado.

In addition to his EMS career, Mr. Chambers served for twelve years as a volunteer and part-time paid firefighter and has been a college level EMS Program Coordinator (Otero Junior College) and Instructor (Otero Junior College and Pueblo Community College) at all levels of EMS Prehospital Medicine. In 1996 Mr. Chambers received the Star of Life award for exemplary performance in the line of duty. For his many years of service, Mr. Chambers has also been appointed to serve on several regional and state level advisory councils, including current Chairman of the Southern Colorado Regional Emergency and Trauma Advisory Council and member of the State Emergency Medical and Trauma Advisory Council. Brandon is married and is kept busy raising two teenage children. He also enjoys all the recreational activities that living in Colorado affords its residents.

Dr. Arthur Kanowitz is a board certified emergency physician with 33 years experience in EMS and is the only physician who has functioned as a full-time EMS Medical Director in Colorado. Dr. Kanowitz became an EMT in 1975 and later graduated from Dr. Gordon's (Cycle One) Paramedic Program. He worked for Denver Health Paramedic Division for five years before entering medical school at the University of Colorado. He completed an internship in Internal Medicine and a residency in emergency medicine before joining the staff at Lutheran Medical Center where he worked as an ED physician and their EMS Medical Director. Since leaving clinical practice Dr. Kanowitz has served as Medical Director for Pridemark Paramedics and Mountain View Fire and founded a medical device research and development firm. Dr. Kanowitz has served the Colorado EMS community on numerous councils and boards including the SEMTAC, Foothills RETAC, EMSAC advisory board, Denver Metro Physician Advisors and Boulder County Physician Advisors. He also served as board member and President of Colorado ACEP. Nationally, Dr. Kanowitz has served on both the ACEP Trauma Committee and EMS Committee and is a member of the National Association of EMS Physicians. He has multiple publications in EM / EMS journals and books. Currently Dr. Kanowitz is Colorado's State Emergency Medical and Trauma Services Medical Director and the EMS Medical Director for Mountain View Fire Protection District. He is also the President and Chief Medical Officer for InnoMed R&D, an EMS research and development firm that is currently working on the patent and FDA approval for a radically new endotracheal tube stabilization system.

Eric Schmidt, RN, BSN, MBA, EMT-I, is a Colorado native and began his career in emergency services more than 26 years ago as a volunteer firefighter in Copper Mountain. He has provided EMS consulting services and technical assistance to local governments in Colorado through his firm, EMS Services, since 1992. He currently contracts with the Northwest RETAC to serve as coordinator and provides ambulance inspection services for nine counties. He also serves as the EMS Program Director for Colorado Northwestern Community College. Eric's consulting services are supported by a broad array of experiences in emergency medical and trauma services. Most recently, he was a trauma nurse for Penrose Hospital, a Level II trauma center in Colorado

Springs. Before that, Eric served as the EMS Officer for El Paso County where his duties included contract administration of a high-performance ambulance agreement for the El Paso County Emergency Services Agency, administration of the County's ambulance licensing program, and EMS system coordination. He has also served as the manager for a Title 32 special district that operated a community clinic and emergency center as well as ambulance service, administered federal pass-through grants as a program manager for the Colorado Department of Transportation, collected prehospital data for system analysis as an information system specialist at the Colorado Department of Public Health and Environment, and held paid and volunteer positions as an EMT at several rural EMS agencies. He earned Bachelor of Science degrees in Nursing, Business Administration and Mechanical Engineering from the University of Colorado, and a Master of Business Administration from the University of Oregon. Eric currently holds a Colorado Registered Nurse license, Colorado EMT-Intermediate certification, and Occupational Education credential from the Colorado Community College system and a technician level Amateur Radio license.

Carl Smith is currently the Deputy Chief for the Carbondale and Rural Fire Protection District. Carl started with the Carbondale Fire Department as the EMS Chief responsible for the District's EMS and ambulance systems as well as the development of a Paramedic Program. He was later promoted to Deputy Chief in charge of all Emergency Operations. Prior to his service with the Carbondale he was a volunteer and paid employee for the Glenwood Springs Fire Department. At the Glenwood Springs Department he served as a Fire Engineer/EMT Intermediate and EMS Director. One of his accomplishments at Glenwood Springs was the development and implementation of a paramedic program as an integral part of the ambulance transport for the city. During this time frame he also served as both a paid and volunteer Ski Patrolman at the Sunlight Mountain Resort. One of his responsibilities there included EMS management at the resort.

Carl started his career at the Aurora Fire Department and rose through the ranks from Firefighter to Deputy Chief. While on the Aurora Fire Department he served in numerous positions including, Training Officer and Training Chief, Hazardous Materials Team Chief, President of the Pension Board, Battalion Chief and Deputy Chief of Operations. As Deputy Chief he supervised the EMS Division whose role in the city was a first response paramedic program and supervision of the private ambulance company under contract to the City of Aurora.

Carl has earned an Associate of Arts and Science in both Fire Technology and Fire Prevention from Red Rocks Community College. In addition he has a Bachelor of Science in Public Administration from Metropolitan State College of Denver. Carl earned his EMT Basic in 1976, EMT Intermediate in 1994 and his EMS Primary Instructor in 2000. Carl is certified by the Division of Public Safety as a Fire Officer III, Fire Instructor I, and Haz-Mat Operations. He also has his Engine Boss Certification. Carl has attended numerous courses at the National Fire Academy including Advanced Leadership in Emergency Medical Issues and Financial Management.

Carl has served on the Pitkin County and Garfield County EMS Councils for many years. He has served in several positions on the council including Chair of the Garfield EMS Council. Included in his accomplishments in this position were the development of the Garfield/Pitkin County Protocols and development of the Garfield County Ambulance Licensing Resolution. Carl has also served since its inception on the NWRETAC. He has served on the Budget and Planning Committee and is currently the chair of the NWRETAC. Carl is also a member of the Valley View Hospital Trauma Advisory Committee.

Tim Zimmerman has been continuously involved in EMS in Colorado since graduating EMT-Basic school in 1976. Mr. Zimmerman continued his education, graduating EMT-Paramedic school in 1983. Mr. Zimmerman has worked with volunteer systems including the National Ski Patrol, Wheat Ridge Volunteer Fire Department and the Wheat Ridge Police Department. Professionally, Mr. Zimmerman has managed EMS systems under the Title 32 Special District design in Evergreen and Frederick, Colorado. Mr. Zimmerman also continues to be active in EMS and tactical EMS education around the Denver area. In 2009, Mr. Zimmerman was awarded the Volunteer of the Year by the Colorado Association of Chiefs of Police, for his work with tactical EMS.

In 2005 Mr. Zimmerman played a key role in the integration of ALS transport into the fire department model when the ambulance district merged with the fire district. For the last 4 years, Mr. Zimmerman has managed the fire based, ALS transporting division in Frederick Colorado. In addition to EMS credentials, Mr. Zimmerman holds several fire certifications and currently holds the rank of Division Chief of Life Safety for the Frederick-Firestone Fire Protection District. Mr. Zimmerman is a resident of Frederick, Colorado.

Sean M. Caffrey, CMO, MBA, NREMT-P served as the project manager and editor for this project. Sean is the System Development Coordinator for the EMS & Trauma Services Section of the Colorado Department of Public Health and Environment. Sean previously served as the Director of the Summit County Ambulance Service, a county-based governmental enterprise, located in Frisco, Colorado. Sean has been a paramedic since 1991 and is certified as a Chief Medical Officer (CMO) through the Center for Public Safety Excellence. He received a BS degree in Emergency Services Administration from the George Washington University in Washington, D.C. and a Masters in Business Administration from the University of Denver. Sean's experience includes service in volunteer, hospital-based, fire service, governmental and private-sector EMS providers. Sean also represented governmental EMS providers on the Colorado State Emergency Medical and Trauma Services Advisory Council (SEMTAC), served as Secretary/Treasurer for the Central Mountains RETAC and President of the EMS Association of Colorado, Inc. Sean has been instrumental in developing EMS management education programs at the local, state and national levels. He has lead previous EMS assessment projects in the San Luis Valley, Park County and Las Animas County Colorado.