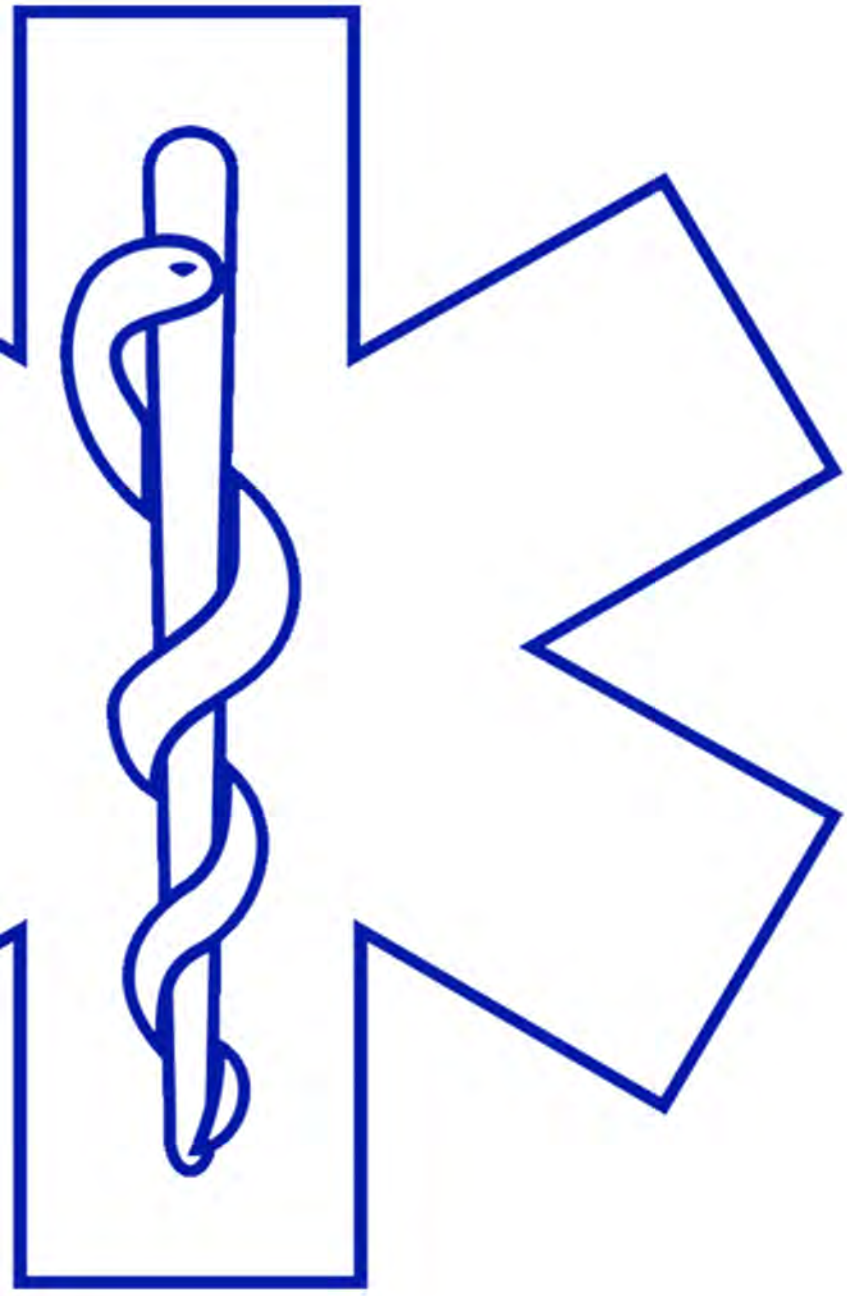

Custer County
Colorado

Emergency Medical &Trauma Services System Consultation

Oct. 6-8, 2014

COLORADO
Health Facilities & Emergency Medical Services Division
Department of Public Health & Environment

COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

Jan. 5, 2015

Custer County
Board of County Commissioners
205 South 6th Street
Westcliffe, Co 81252

Dear Commissioners,

On behalf of the Colorado Department of Public Health and Environment (the department) and the Southern Colorado Regional Emergency Medical and Trauma Advisory Council (RETAC), we are attaching the Custer County emergency medical and trauma services system consultative review report. Pursuant to your invitation and support of this project, a group of consultants worked under the general coordination of both the RETAC and the department to review the current status of the EMS and trauma system in Custer County. The Custer County Board of County Commissioners and the Custer County emergency services community are to be commended for the dedication and foresight you demonstrated by undertaking this important activity. We hope this report will provide the basis from which the community can move forward to ensure that quality patient care and transportation continue to be provided throughout the county.

The department is pleased to have provided the funding for this project and wishes to thank the RETAC for its willingness to provide additional resources and support to this effort. Understanding that Colorado statute vests each county with the authority to develop, design and implement local emergency medical services systems, this consultative review is intended to provide insight and information from which the Board of County Commissioners, the healthcare community and local EMS services can make the policy decisions necessary to support the development of improved services to patients throughout your jurisdiction. The report itself has been authored by members of the contracted review team and represents their perspectives and recommendations. Understanding that the department has limited regulatory authority regarding services that provide prehospital care and transportation, this report nonetheless represents our commitment to work with local governments to ensure quality health care for all Coloradans.

As Custer County considers its next steps, if our office or the RETAC can be of further assistance, please reach out, and we will look forward to the opportunity to assist any way we can.

Respectfully,

Michelle Reece for D. Randy Kuykendall

D. Randy Kuykendall, MLS
Director
Health Facilities and EMS Division
Colorado Department of Public Health and Environment

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Executive Summary

In October 2014, the Colorado Department of Public Health and Environment, along with six EMS and trauma services experts, performed a consultative visit at the request of the Custer County Board of Commissioners. The purpose of the visit was to review and evaluate the components of the EMS and trauma system in order to provide recommendations for system improvement and enhancement.

The Custer County EMS and trauma system includes the West Custer County Hospital District- Custer County Medical Center, Custer County Ambulance, Wet Mountain Fire Protection District and Wetmore Volunteer Fire Department, Custer County Search and Rescue and Communications Center, with mutual aid being provided by Beulah Fire Protection District, Florence Fire Protection District and Rye Fire Protection District.

Custer County is nestled in the mountains creating a rural environment that poses challenges to the EMS and trauma system. Mutual aid resources can be 30 to 45 minutes away depending upon weather and resource availability. The pre-visit survey showed that the stakeholders rated the overall effectiveness of the system as average, and it was clear throughout the visit that, although the community is supportive and happy with the care and services provided, they are concerned about their ability to sustain that care. It was evident that the community is passionate about the ambulance service and will do what it takes to provide sustainable EMS service. In addition, the dedication that the community members have to the various emergency services is to be commended and, if directed appropriately, will fuel long term growth and sustainability.

The hospital district was set up in 1988 to provide 24 hour medical care through a rural health clinic with a volunteer ambulance service providing EMS care. In 2013, the volunteer ambulance service was converted from a volunteer service to a part-time paid service creating a financial need for a new funding source. During the time this report was being written, the community passed Proposition 4A, which will provide additional mill levy funds to financially support the ambulance service. During the onsite visit interviews, various interviewees commented that the ambulance service should be moved out of the hospital district and placed elsewhere, with the majority suggesting the Wet Mountain Fire Protection District. With the major challenge of funding the ambulance service in the past, the community stakeholders will now have to decide on the most appropriate EMS deployment model for the ambulance service. With the hospital district already set up to run an ambulance service and funding now in place, the team's recommendation of the most appropriate placement at this time is to remain within the district. Financial and operational segregation between the clinic and the ambulance will need to take place for proper transparency and integrity to exist. This report provides alternative EMS models for the community to evaluate and determine the best placement of the ambulance service based on financial, service delivery and community needs. In addition, the report provides a list of suggested short-, medium- and long-term recommendations for system improvement and enhancement.

Introduction and Project Overview

In February 2014, the Board of County Commissioners of Custer County requested grant funding from the Colorado Department of Public Health and Environment (the department) to provide an assessment and review of the county's emergency medical and trauma services system. The department awarded system improvement funding in July 2014 to support the consultation.

Under Colorado law, the Custer County Board of County Commissioners is the ground ambulance licensing authority as defined by C.R.S. § 25-3.5-301 and C.R.S. § 30-11-107(q). The primary EMS agency within the Custer County system is the Custer County Ambulance, which falls under Title 32 Special District of the West Custer County Hospital District. The hospital district also includes the Custer County Medical Center, a rural health clinic. The Rye Fire Protection District, Florence Fire Protection District and Beulah Fire Protection District also provide EMS services to portions of Custer County on a mutual aid agreement. The county commissioners along with the EMS and trauma services stakeholders all agreed to participate in the consultation process in order to develop viable long-term solutions to ensure high-quality EMS services are provided to the citizens and visitors of Custer County.

The Emergency Medical and Trauma Services Branch, pursuant to declaration and authority to assist local jurisdictions provided in C.R.S. § 25-3.5-102 and 603 respectively, recruited an emergency medical and trauma services consultative visit team to evaluate the Custer County EMS and trauma system and to make recommendations for system improvement. Analysis of the current system involved interviews with primary stakeholders and a review of available system data. The state of the current system was analyzed using topics derived from the original 14 EMS attributes contained in the 1996 *EMS Agenda for the Future*, published by the National Highway Traffic Safety Administration, in addition to one Colorado-specific attribute. These attributes serve as the basis for a number of statewide and regional planning activities and are further referenced in 6 CCR 1015-4, Chapter Four. A list, of short-, medium- and long-term recommendations with guidance for implementation is provided in this report for possible ways to improve the overall Custer County EMS and trauma system, including the pre-hospital treatment, ground ambulance transportation, communication and documentation subsystems addressed in C.R.S. § 25-3.5-101 *et seq*.

The system improvement grant authorized approximately $25,000 to conduct the review. The department developed a contractual relationship with the Southern Colorado Regional Emergency Medical and Trauma Advisory Counsel (RETAC) and the West Custer County Hospital District to serve as the fiscal agent for the project. The system development coordinator at the department and the Southern Colorado RETAC coordinator, Brandon Chambers, provided project management for the consultative visit. All the team members were selected jointly by the RETAC and the department and were approved based on their expertise in rural EMS and trauma systems.

Custer County Geography and Demographics

Custer County is located in the central/southern area of Colorado surrounded by Pueblo County on the east, Huerfano County to the south, Saguache County on the west and Fremont County to the north. Rugged mountainous terrain with several 14,000 foot peaks isolates the county creating the rural demographics. According to the 2010 census, 4,255 people reside in the 740 square mile area with a population density of approximately 5 persons per square mile.[1] The county has seen a 20.5 percent increase in population since 2000 and since 1980, the population has nearly tripled.[2] The lowest elevation is around 6,000 feet with the highest elevation being Crestone Peak at 14,294, the seventh highest fourteener in Colorado. The major townships are Cold Spring, Colfax, Fairview, Greenwood, McKenzie Junction, Querida, Rosita, San Isabel, Silver Cliff, Tanglewood Acres, Westcliffe (county seat) and Wetmore. The median household income is $40,784 with the median house value of $231,604.[3]

In 1877, Custer County was formed from the southern half of Fremont County. The county was named after Lt. Colonel George Armstrong Custer, United States Army officer and cavalry commander in the Civil and Indian Wars. In the early 1870s, a silver rush brought thousands to what is now known as Custer County.

Silver Cliff, the largest township in the county with a current population of 587, was the main focus of the mining due to the Silver Cliff (Geyser) mine. In 1888, the mine went bankrupt but shareholders saved the company; however, they were never able to make a profit. The Geyser mine at one time was the deepest mine in the state.[4] Other famous mines include Bassick mine and Bull Domingo. At the 1880 census, it was estimated that there were 5,040 residents living in town, the third most populated town in the state behind Denver and Leadville. Once the silver was exhausted from the mines, the miners left town and cattle ranchers began to inhabit the land.

Today, visitors from all over the state and nation are attracted to various rock climbing, hiking, off road trails, hunting, fishing, snowshoeing and cross country skiing. Westcliffe and Silver Cliff sit adjacent to the breathtaking Sangre de Cristo Mountains that attract camping and seasonal tourists seeking the seclusion that the various mountain peaks provide. Of note, the San Isabel National Forest is located on the eastern edge of the county. The national forest covers 1,120,233 acres and spans 11 counties to include Chaffee, Custer, Lake, Huerfano, Fremont, Pueblo, Saguache, Las Animas, Park, Costilla and Summit counties.[5] During the summer months, the High Mountain Hay Fever Festival brings 4,000 blue grass patrons, and the Wet Mountain Jubilee attracts authentic cowboy music followers. At the end of summer, the High Peaks Music Festival attracts locals and tourists to the outdoor amphitheater.

Emergency Medical and Trauma Service Providers

Custer County Medical Center

Custer County Medical Center is a federally certified rural health clinic (RHC) owned and operated by the West Custer County Hospital District. They are one of 51 federally certified RHCs in Colorado. The West Custer County Hospital District is the only hospital district in the state that operates a clinic and ambulance service, but no hospital facility. Custer County Medical Center is an independent RHC, which means it is independently run as opposed to being owned and operated by a hospital as a provider-based clinic. The clinic services include family practice, urgent care walk-ins, digital x-ray, lab services, optometry, orthopedics and physical therapy. Over the past three years, the clinic's patient visits have increased from approximately 6,000 in 2012 to over 8,000 so far in 2014. Custer County Medical Center is the only health care facility in the county, with the next closest facility 45 minutes away in Fremont County.

Custer County Ambulance

The current structure of the Custer County Ambulance service began in 1988 when a service plan was set up to connect the ambulance service with the West Custer County Hospital District. At that time the service was set up as a volunteer agency with fundraising money supporting operations. In 2007, the service went to an independent contract pay for its service members, but due to some concerns, the service members in December 2013 went to a pay per call status. Currently there are 16 service members at the part-time status. The current per hour rate is $8 per hour for the staffed 12 hour crew and $12 per hour for a second call out or after staffed hours response while the on duty crew is on a call.

The ambulance service is run through the West Custer County Hospital District, a Title 32 Special Hospital District. The hospital district receives a 4.908 mill levy; however, there is no designation as to how much the ambulance service is to receive. The primary funding for the ambulance comes from transport reimbursement, ½ mill for administrative services and grants, including a small grant from SAMs and Wal-Mart. In addition, the community supports the ambulance through donations called the Spirit Fund. Starting in March 2015, the ambulance service will receive a three mill levy to subsidize funding.

The 16 ambulance service members are comprised of one Paramedic, one Intermediate, six EMTs with intravenous authorization, two EMTs and six drivers. Currently all of the drivers have completed the EMT course, but are waiting for their certifications or time to test. In addition, one of the EMTs is currently going through the Intermediate course. There are three vehicles in the fleet, two of which are Type I 4x4s and the other is a Type III. All three of the ambulance patient compartments are

arranged the same with ALS equipment and supplies to maintain consistency and ease when transferring vehicles.

Beulah Fire Protection District

In 2013, Beulah Fire Protection District merged the fire service and EMS together. The district service members are considered pay-per-call status. There are two members who staff the station 24/7, one being an advanced life support provider and the other a basic life support provider. The district responds to 160 to 170 requests for service per year with funding provided through a 13.5 mill levy and user fees. The majority of the request for service into Custer County is for search and rescue assistance. Currently there is no written mutual aid agreement, just a verbal agreement to provide advanced life support assistance.

Florence Fire Protection District

The Florence Volunteer Fire Department is one of two volunteer agencies providing service within the Florence Fire Protection District in eastern Fremont County, Colorado. The district covers 248 square miles. The district was formed in 1953 and operates as a 501(c)(3) non-profit corporation with funding generated through a district-wide property levy of 4.89 mills; however, only the structural fire protection portion of the district is covered in the mills. All of the members of Florence Volunteer Fire Department providing EMS are cross-trained as firefighters who are required to provide volunteer firefighting in addition to EMS responses. The district owns all structural firefighting apparatus and the Florence Volunteer Fire Department members own and operate two ALS ambulances, a rescue truck with extrication capabilities and a brush truck.

The fire department currently has six advanced life support providers in addition to 18 EMTs and first responders, for a total of 24 members. All ambulance staffing is done by these volunteers, who receive a $10 stipend per ambulance transport. For a retention benefit, if in good standing the members will get $50 per week, paid out on a quarterly basis. The district so far in 2014 has responded to approximately 800 requests for service, which is up 130 requests and puts them on pace for approximately 1,000 responses for 2014. On average, the district responds to 30 requests for service into Custer County per year.

Rye Fire Protection District

Rye Fire Protection District is located southeast of Custer County at the Custer/Pueblo county line and covers 236 square miles, 11 square miles of which are in Custer County. The district responds to approximately 800 calls per year, with roughly 12 of those being in Custer County. The financial structure of the district is a non-profit with revenue coming from a 10.0136 mill levy and ambulance transport fees. The district has 18 members on the service comprising both full- and part-time members. Four persons staff the station per 24-hour time period. There are a total of 10 vehicles owned by the district; two of which are Type I ambulances and one is a Type II ambulance, assisted by a lightweight rescue vehicle. Although Rye

responds as mutual aid to assist Custer County on EMS calls, they have limited resources and have identified this as a significant issue when calls overlap.

Wet Mountain Fire Protection District

The Wet Mountain Fire Protection District was originally named the Westcliffe Volunteer Fire Department, but in the 1980s the name was changed to include the valley area. The name comes from the Wet Mountains that border Custer County. In 1988, the district was formed creating a special taxing district.

Wet Mountain Fire Protection District is located in Westcliffe and covers a response area of 580 square miles. The district is set up as a special taxing district funded through a 3.842 mill levy. There are 32 members currently on the service, the majority of who are in volunteer status with a few members being stipend pay or partial pay. Stipends are paid for volunteers who lead agency sections in communications, training, maintenance and inventory. The chief is paid part time. All firefighters are eligible for a Fire and Police Pension Association pension after 20 years of service, age 50 and 720 hours of training. The district runs approximately 130 requests for service each year, none of which are EMS. The engine will respond with EMS for motor vehicle accidents, helicopter landings and hazmat calls. As of October 2014, the district responded to 27 motor vehicle accidents and 17 helicopter landings. All firefighters are trained at the Firefighter I or II level along with hazmat operations certification. Three of the service members have EMS training and include an EMT, an Intermediate and one RN. The district has 15 apparatus spread out between one main station and three satellite stations, comprising of a tender, brush trucks, pumpers and a command vehicle. The two primary engines out of the main station carry an AED.

Firefighters participate in occasional joint training exercises with Custer County, primarily vehicle extrication and helicopter landing. Custer County Ambulance conducts all its CPR and First Aid training at no cost to the district. Although there is no formal firefighter wellness or fitness program, the department makes gym equipment available to all members. The district is also currently in talks with neighboring districts to determine how best to provide automatic and mutual aid to the southwest corner of Custer County.

Wetmore Fire Protection District

The Wetmore Fire Protection District is comprised of 12 volunteer members covering a population of 300 persons in an unincorporated area of Custer County. The district has a 1600 gallon tender, 750 gallon pumper, two brush trucks and a four passenger ATV. The primary service provided is immediate response to wildland fires. The district is funded entirely from donations and fundraisers; however, it also relies on the Florence Fire Protection District, which is 10-11 miles away, to provide all EMS response and transport, as well as fire mutual aid.

Custer County Search and Rescue

Custer County Search and Rescue is a department under the Custer County Sheriff's Department. The team is an all-volunteer department with anywhere between four and 40 active members, depending on the time of year. The department is a nonprofit organization and is funded through grants and donations. The team has approximately 25 missions annually. It is a primary ground search team with low angle rescue capabilities. There is an increase in volume during summer tourist periods. The team has a couple of medically trained personnel, but does not utilize a medical program above basic first aid measures. The team utilizes two tenured members as captains, who lead all mission activities and training. The team functions as a mutual aid partner with local departments in many aspects of emergency response. They also work with neighboring SAR teams and frequently function outside of their primary service area. The team started in the mid 1970s due to an increase in wilderness public use and a sheriff with a passion and training for the outdoors.

Custer County Sheriff Communication Center

The Public Safety Answering Point (PSAP) for the county is the Custer County Sheriff's Communication Center. The communication center provides dispatch and radio communication for Custer County Ambulance, Wet Mountain Fire Protection District, Wetmore Fire Protection District, Custer County Sheriff's Department and Posse and the Custer County Search and Rescue. There are a total of five full time dispatchers who staff the center 24 hours a day on an eight hour shift schedule. All the dispatchers are emergency medical dispatch trained (EMD) using the State of Colorado EMD Pre-Arrival Instruction protocols. The center uses the Cassidian Patriot System maintained by CenturyLink for 9-1-1 call taking; however, the calls are logged first by pen and paper then transferred to an Excel spreadsheet. Currently the county dispatch does not have a computer aided dispatch (CAD) terminal. The center uses CodeRED for its reverse 9-1-1 capabilities to notify citizens of potential or impending hazards.

Analysis of Custer County EMS System Elements

Prior to and during the consultative visit, key participants from the countywide EMS response system and local health care facilities were asked to complete a survey rating the current EMS and trauma services and relationships in the county. In addition, county commissioners and EMS and trauma system stakeholders were interviewed during the county visit. The following sections take into consideration the pre-visit survey, interviews and factual data from various reports.

Legislation and Regulation

Legislation and Regulation Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
The County EMS Resolution is up to date	10	6	2	1	1	22	1.85	42
Custer County Ambulance is in compliance with all applicable regulations	0	2	5	7	4	25	3.72	43
The clinic is in compliance with all applicable regulations	4	3	4	3	3	26	2.88	43
The EMS system is accountable to the public for its performance	3	5	4	7	14	10	3.73	43
The clinic is accountable to the public for its performance	14	6	2	5	11	5	2.82	43
							answered question	**43**
							skipped question	**3**

The state of Colorado has the sole authority to regulate hospitals, nursing homes and most healthcare agencies providing services in the areas under its jurisdiction. Counties, however, are required by statute to license ambulance services and issue ambulance vehicle permits. The Custer County Board of County Commissioners is the ambulance licensing authority as defined by C.R.S. § 25-3.5-301.The county also has the power to organize, own, operate, control, direct, manage, contract for or furnish ambulance services, C.R.S. § 30-11-107(q). Counties are also authorized to adopt regulations and develop an EMS system framework that meets or surpasses the requirements contained in state regulations. Many county resolutions also formally create local councils to advise the Board of County Commissioners on EMS issues. Most counties establish their EMS system and licensing policies through a resolution or ordinance.

Currently the West Custer County Hospital District is the operator of the EMS system. This was accomplished by an inter-governmental agreement in August 1988, when the county turned over the ambulances and all assets of the EMS system to the hospital district. The West Custer County Hospital District is a Title 32 Special District that is considered a local government entity; in Colorado these entities include counties, municipalities (cities and towns), school districts and other types of government entities such as "authorities" and "special districts."

Colorado law limits the types of services that county governments can provide to residents. Districts such as hospital or ambulance districts are created to fill the gaps that may exist in the services counties provide and the services the residents may desire. The majority of districts draw their

boundaries in unincorporated county land, but residents of a municipality may be included in one or more districts. In the West Custer County Hospital District the boundaries are not all inclusive of the total county, leaving the east end of the county outside the hospital district.

Custer County is a part of the Southern Colorado Regional Emergency Medical and Trauma Advisory Council (SCRETAC). The SCRETAC is a part of the state RETAC system that is actively involved in maintaining and improving EMS and trauma systems at the regional and state level. The regional coordinator attends and participates in work sessions, task force meetings and regular SEMTAC meetings.

Recommendation

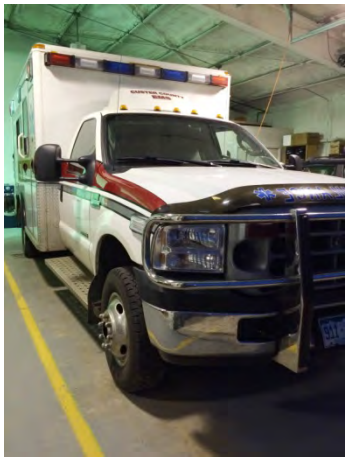
- Evaluate all EMS service delivery models by comparing the financial, service delivery and community needs with what the current hospital district can provide. Determine, based upon financial, service delivery and community needs, the best EMS delivery model. Choose whether to remain within the hospital district, merge with the fire department, change to county government oversight or create a separate ambulance district (Title 32 Special District), if warranted, to become self-supporting with fees for service subsidized by the mills collected.

System Finance

System Finance Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
The EMS system in Custer County is adequately funded	32	3	2	1	1	3	1.36	42
The trauma system in Custer County is adequately funded	27	5	4	1	1	3	1.53	41
The local EMS system is sustainable over the long term	25	3	3	4	1	6	1.69	42
The clinic is sustainable over the long term	14	13	7	3	0	5	1.97	42
The EMS system is funded equitably across Custer County	20	6	5	2	1	7	1.76	41
The clinic is funded equitably across Custer County	10	8	6	5	2	10	2.39	41
Ambulance rates are reasonable	3	3	2	6	7	20	3.52	41
The public is willing to support EMS funding needs	3	9	8	5	10	7	3.29	42
							answered question	**42**
							skipped question	**4**

Custer County Ambulance operates as a part of the West Custer County Hospital District. Currently the ambulance operates as a department of the special district. The district also owns and operates a rural health clinic, providing primary care and related services in Westcliffe.

Financial Condition Summary



The special district has experienced recurring operating losses in past years as noted in the district's financial audit report issued on June 17, 2014 for the fiscal year ended Dec. 31, 2013. Following are excerpted and paraphrased comments from the audit report. For a complete context, the entire report is available on the district website: http://www.custercountyclinic.com/index_htm_files/HD_Audit_2013.pdf

- The FY 2013 financial statements were prepared assuming the district would continue as a going concern. The board and management had developed and were implementing a financial plan by reducing or restructuring its liabilities, increasing income and evaluating most aspects of the district's operations.
- The net loss before capital contributions in FY 2013 was $22,537 and $97,577 in FY 2012.
- As the result of an investigation by the Department of Labor (DOL) the district was required to pay approximately $38,000 in back wages to Custer County ambulance crew members.
- A law suit filed by 12 EMS crew members seeking more monetary reimbursement is still pending.
- The district has begun affiliation talks with area hospitals.
- As of Dec. 31, 2013 the district's cash reserves were below the estimated emergency reserves required by the Taxpayer's Bill of Rights (TABOR).

Analysis of the FY 2013 EMS operations shows the district experienced a net operating loss of approximately $95,000 on ambulance services. This amount is the result of net patient service revenue and direct expenses attributable to the ambulance service and does not include any district administrative overhead or income generated by property taxes. The net loss on ambulance operations in FY 2014 is estimated to be approximately $10,000 based on internal financial statements as of Sept.30 annualized for the full fiscal year.

Gross charges for the ambulance services in FY 2013 were approximately $447,000 and FY 2014 is estimated at $662,000. In FY 2013 the net revenue after contractual adjustments, discounts and bad debts was approximately $164,000 or 37 percent of charges. Net revenue FY 2014 through Sept. 30 was approximately 25 percent of gross charges. The estimated net revenue is approximately $171,000.

Staff payroll related expenses and fees in FY 2013 were approximately $149,000. As the result of wage and staffing changes in FY 2014 resulting from the Department of Labor investigation, the staffing cost FY 2014 is estimated to be approximately $84,000. The current wage rate for ambulance staff is $8.00 per hour, regardless if they are EMT, Intermediate or Paramedic.

Other direct expenses in FY 2013 were approximately $109,000 including depreciation on EMS assets of $48,000. The other direct expenses for FY 2014 are estimated at $102,000 including depreciation of $20,000.

EMS revenues and expenses

	Actual FY 2013	Actual YTD 9/30/14	Annualized FY 2014
Gross ambulance revenues	446,733	496,762	662,349
Reductions of revenue			
Contractual adjustments & discounts	203,729	289,139	385,519
Bad debts	79,130	78,736	104,981
	282,859	367,875	490,500
Net patient revenue	163,874	128,887	171,849
Operating expenses			
Salaries - EMT	38,032	41,119	54,825
Salaries - EMS coordinator	3,192	16,732	22,309
Expense reimbursement	104,777	-	-
Payroll taxes	3,175	4,777	6,369
Total payroll-related expenses	149,176	62,628	83,504
Insurance	5,840	5,600	7,467
Supplies	10,464	9,876	13,168
Fuel	11,433	8,355	11,140
Maintenance	5,745	16,051	21,401
Utilities	6,326	3,204	4,272
Professional services	18,265	4,190	5,587
Depreciation	48,045	14,903	19,871
Ambulance fundraiser	-	13,992	18,656
Other direct expenses	3,175	380	507
	109,293	76,551	102,068
Total expenses	258,469	139,179	185,572
Net loss	(94,595)	(10,292)	(13,723)

Using the revenues and expenses above, certain adjustments can be made that are attributable to the ambulance services. The result is an estimation of the cash flows from service.

- Non-cash depreciation can be added back to the net operating losses.
- The operating analysis does not include revenues from property or other taxes. Based on management's assertion, approximately $47,000 of the current mill levy is attributable to ambulance services. This represents one-half (½) mill.

- Management estimates that approximately $50,000 of district overhead is attributable to the ambulance service. This amount includes a portion of wages and benefits of administrative service members, insurance and other general administrative expenses of the district. This estimate is significantly less than the amount attributed to the ambulance service in the FY 2013 Medicare rural health clinic cost report filed FY 2013. Management's estimate is considered to be the current overhead expenses that would be eliminated if the ambulance service were not part of the district operations.
- Based on these assumptions, the ambulance service negative cash flow in FY 2013 was approximately $50,000 and will be about breakeven in FY 2014.

Projecting into the future, a scenario is projected as FY 2015 based on the following additional factors:

- Management has projected service member costs of $378,000 based on new staffing requirements, increased wage rates and benefits for employees. This estimate is constituted of the following components:

▪ Ambulance service manager	$19,000
▪ Ready & on call crew	245,000
▪ Overtime	27,000
▪ Payroll taxes	23,000
▪ Benefits	64,000

*Wage rates included in these estimates range from $10 to $12 per hour.

- Using net patient revenues, other expenses, depreciation and current tax revenue the same as FY 2014 the net operating loss increases to $308,000.
- In November 2014 voters approved an additional 3 mill tax levy designated for EMS services. Management estimates the net cash value of the new levy will be approximately $296,000 per year. Of this amount, management estimates approximately $30,000 from the specific ownership tax. Cash flow from this levy will not be available to the district until March 2015. For comparative purposes the entire amount is considered FY 2015 income.
- Adjusting for the various items above, the estimated cash flow FY 2015 will be breakeven.

Financial Analysis

	Actual FY 2013	Annualized FY 2014 (3)	Estimated 2015 (4)
Net EMS patient revenue	163,874	171,849	172,000
Operating expenses			
Total payroll-related expenses (5)	149,176	83,504	378,000
Other direct expenses	109,293	102,068	102,000
Total expenses	258,469	185,572	480,000
Net loss on operations	(94,595)	(13,723)	(308,000)
Adjustments:			
Add-back depreciation	48,045	19,871	20,000
Add - estimated income from existing mill levy (1)	47,000	47,000	47,000
Less -EMS portion of overhead (2)	(50,000)	(50,000)	(50,000)
Add - estimated income from new mill levy (6)	-	-	296,000
Estimated cash flow	(49,550)	3,148	5,000

Notes:

1. Estimated amount from existing 1/2 mill levy internally designated for EMS services
2. Estimated overhead of the organization attributable to EMS services provided by management. The Medicare cost report FY 2013 filed for the Rural Health Clinic caluculated EMS portion of overhead expenses at the rate of 58% of direct expenses or approximately $130,000.
3. FY 2014 estimated by annualizing the year to date 9/30/14 internal fiancial statements.
4. Estimated FY 2015 revenue and expenses based on FY 2014 adjusted for payroll.
5. Payroll for crews, manager, taxes and benefits estimated by management.
6. Revenue from the new 3-mill levy approved by voters in November 2014 is estimated by management at $296,000 per year. Although actual collections will not be available until March 2015, the entire amount is shown for comparison purposes.

Financial segregation

Currently the district tracks revenues and expenses in separate accounts in a chart of accounts that is comingled with the operations of the rural health clinic. Although this is acceptable accounting methodology, the segregation of the ambulance service financial activity into a separate "fund" within the district operations might provide a clearer picture of the ambulance service financial status

compared to that of the clinic. In separate "fund" accounting the district could maintain a separate financial system for reporting, cash, accounts receivable and other assets and liabilities separate from the clinic. If the clinic pays for certain items of overhead, a reasonable internal "charge" can be made from the clinic "fund" to the EMS "fund" to account for the service or expense. The ambulance service fund would likewise charge the clinic for similar items, if expended from its fund. Under this methodology separate financial statements can readily be produced for the board and public to help alleviate some of the public concern about the transparency of the ambulance service operations versus clinic operations.

Going forward

With the recent successful passing of the mill levy increase in Proposition 4A, the increased funding allots for the increase in wages from $8 per hour for EMTs, Intermediates and Paramedics to $10 for EMTs, $12 for Intermediates and $15 per hour for Paramedics. In addition, the ambulance service is projecting to transfer the staffing model from a part-time service to a full-time service. The increase in wages presents some positives and challenges for the district. Increasing wages will attract more EMS providers to the service, which will aid in recruitment and retention. The challenges of increasing the wages are determining the staffing model to limit holes in the schedule, forcing overtime wages. How the current staffing model is set up is based upon a 12-hour shift rotation in which service members are discouraged from working more than 36 hours per week. Evaluating cost differences between 12-hour shift rotation and a 24-hour "Kelly Schedule" or a 48 hours on/96 hours off (48/96) schedule should be calculated for the most efficient and cost effective full-time staffing model.

12 Hour Staffing Model

With using a 12-hour staffing model a total of eight full-time employees are required to fill the schedule. Typically a 12-hour rotation has a front half of the week day and night crew and a back half of the week day and night crew. One week a crew will work three 12-hour shifts then the second week will work four 12-hour shifts. Another popular 12-hour deployment model has crews working four straight shifts (days or nights) then four straight days or nights off in a row. This deployment model works well in more urban EMS systems due to the busyness of the system that typically sees more night time calls than a rural community.

24 Hour Staffing Model

In a 24 or 48/96 hour schedule, the shift rotation can be broken down into three (A, B, C) shifts requiring a total of six full time employees. On this type of schedule crews will typically work 10 24-hour shifts a month, which works out to three weeks the crew is working two days and one week a month the crew works three shifts. In a less busy EMS system like a rural community, this type of deployment model works best since the fatigue factor of running calls all night is less of a concern.

Deployment Model Tables

The following tables demonstrate the cost breakdown per 12, 24 and 48/96 hour shift schedule. The 12-hour model is based upon four EMTs, two Intermediates and two full-time Paramedics staffing the ambulance 24/7. The 24 and 48/96 hour models are based upon three EMTs, two Intermediates and one Paramedic staffing the ambulance 24/7. The tables to the left are based upon the March 2015

proposed ambulance service pay increase. Due to minimum wage requirements and cost of living, a suggested table was created on the right to demonstrate what increasing the wages would look like to provide minimum standards.

Ambulance Service Schedule Staffing Models

EMT Staffing Table

Shift Type	12 hour	24 Hour	48 Hour
Annual Hours EMT Coverage	8,760	8,760	8,760
Work Weeks	52	52	52
Number of Employees Required	4	3	3
Annual Hours Per Employee	2,190	2,920	2,920
Average Hours Per Pay Period	42.1	56.2	56.2
Hours Payable Per Week (Incl Overtime)	43.2	64.2	64.2
Weeks Per Pay Period	2.00	2.00	2.00
Hours Payable Per Pay Period	86.35	128.46	128.46
Target Annual Salary	$22,450.00	$22,450.00	$22,450.00
Hourly Rate	$ 10.00	$ 6.72	$ 6.72
Total Payroll	**$89,800**	**$67,350**	**$67,350**

Shift Type	12 hour	24 Hour	48 Hour
Annual Hours EMT Coverage	8,760	8,760	8,760
Work Weeks	52	52	52
Number of Employees Required	4	3	3
Annual Hours Per Employee	2,190	2,920	2,920
Average Hours Per Pay Period	42.1	56.2	56.2
Hours Payable Per Week (Incl Overtime)	43.2	64.2	64.2
Weeks Per Pay Period	2.00	2.00	2.00
Hours Payable Per Pay Period	86.35	128.46	128.46
Target Annual Salary	$26,720.00	$26,720.00	$26,720.00
Hourly Rate	$ 11.90	$ 8.00	$ 8.00
Total Payroll	**$106,880**	**$80,160**	**$80,160**

Intermediate Staffing Table

Shift Type	12 hour	24 Hour	48 Hour
Annual Hours Intermediate Coverage	4,380	5,869	5,869
Work Weeks	52	52	52
Number of Employees Required	2	2	2
Annual Hours Per Employee	2,190	2,935	2,935
Average Hours Per Pay Week	42.1	56.4	56.4
Hours Payable Per Week (Incl Overtime)	43.2	64.7	64.7
Weeks Per Pay Period	2.00	2.00	2.00
Hours Payable Per Pay Period	86.35	129.30	129.30
Target Annual Salary	$26,940.00	$26,940.00	$26,940.00
Hourly Rate	$ 12.00	$ 8.01	$ 8.01
Total Payroll	**$53,880**	**$53,880**	**$53,880**

Shift Type	12 hour	24 Hour	48 Hour
Annual Hours Intermediate Coverage	4,380	5,869	5,869
Work Weeks	52	52	52
Number of Employees Required	2	2	2
Annual Hours Per Employee	2,190	2,935	2,935
Average Hours Per Pay Week	42.1	56.4	56.4
Hours Payable Per Week (Incl Overtime)	43.2	64.7	64.7
Weeks Per Pay Period	2.00	2.00	2.00
Hours Payable Per Pay Period	86.35	129.30	129.30
Target Annual Salary	$31,430.00	$31,430.00	$31,430.00
Hourly Rate	$ 14.00	$ 9.35	$ 9.35
Total Payroll	**$62,860**	**$62,860**	**$62,860**

Paramedic Staffing Table

Shift Type	12 hour	24 Hour	48 Hour
Annual Hours Paramedic Coverage	4,380	2,891	2,891
Work Weeks	52	52	52
Number of Employees Required	2	1	1
Annual Hours Per Employee	2,190	2,891	2,891
Average Hours Per Pay Week	42.1	55.6	55.6
Hours Payable Per Week (Incl Overtime)	43.2	63.4	63.4
Weeks Per Pay Period	2.00	2.00	2.00
Hours Payable Per Pay Period	86.35	126.78	126.78
Target Annual Salary	$33,675.00	$33,675.00	$33,675.00
Hourly Rate	$ 15.00	$ 10.22	$ 10.22
Total Payroll	**$67,350**	**$33,675**	**$33,675**

*Calculations based off of March 2015 proposed pay increases.

Shift Type	12 hour	24 Hour	48 Hour
Annual Hours Paramedic Coverage	4,380	2,891	2,891
Work Weeks	52	52	52
Number of Employees Required	2	1	1
Annual Hours Per Employee	2,190	2,891	2,891
Average Hours Per Pay Week	42.1	55.6	55.6
Hours Payable Per Week (Incl Overtime)	43.2	63.4	63.4
Weeks Per Pay Period	2.00	2.00	2.00
Hours Payable Per Pay Period	86.35	126.78	126.78
Target Annual Salary	$38,165.00	$38,165.00	$38,165.00
Hourly Rate	$ 17.00	$ 11.58	$ 11.58
Total Payroll	**$76,330**	**$38,165**	**$38,165**

*Calculations based off of adjusted minimum wage

Totals

Shift Type	12 hour	24 Hour	48 Hour
Total Employees	**8**	**6**	**6**
Total Payroll with Target Annual Salary	**$211,030**	**$154,905**	**$154,905**

*Calculations based off of March 2015 proposed pay increases.

Shift Type	12 hour	24 Hour	48 Hour
Total Employees	**8**	**6**	**6**
Total Payroll with Target Annual Salary	**$246,070**	**$181,185**	**$181,185**

*Calculations based off of adjusted minimum wage

Recommendations

- Evaluate establishing a "fund" system of accounting for EMS and rural health clinic finances to create defined financial lines between the ambulance service and the clinic. Each department, ambulance service and the clinic should have its own financial and operational structure to create financial and operational transparency and integrity. By separating the two departments, community trust and confidence in the hospital district may increase.
- Evaluate funding opportunities including the Colorado Resource for EMS and Trauma Education (CREATE) and other sources available to help meet some staffing and training needs.
- Evaluate the cost effectiveness of converting the ambulance deployment model to a 24 hour or 48/96 hour staffing model. Converting to an alternate staffing model limits certain challenges faced by a rural community. Scheduling is slightly easier since there are only six full time

service members needed as opposed to eight. In addition, there may be some cost savings realized due to the decrease in personnel needed to run a full-time operation.

- Evaluate the effectiveness of the ambulance billing service to find gaps in uncollected user fees. National EMS billing reimbursement rates are in the 40 percent range, whereas Custer County ambulance reimbursement rates are in the mid 30 percent range. Consider exploring bids from other EMS billing services as a means of comparison. Increasing the ambulance collection rates may result in an increase of revenue.

Human Resources

Human Resources Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
Our community has adequate numbers of EMS providers	19	12	6	1	1	3	1.79	42
Adequate numbers of EMS response units are available	9	6	13	9	3	2	2.78	42
EMS providers are held in high regard by the community	2	4	12	11	10	3	3.59	42
People want to work or volunteer for EMS positions	5	14	7	4	5	6	2.71	41
EMS providers have a high turnover rate	1	2	6	10	19	4	4.16	42
Resiliency training is provided to EMS providers	5	1	5	5	2	24	2.89	42
							answered question	**42**
							skipped question	**4**

Custer County Medical Center

Custer County Medical Center employs 16 clinic service members including one physician, one nurse practitioner, a medical assistant, charge nurse, laboratory technician and an x-ray technician. The administrator oversees both the clinic and the ambulance service and reports to the hospital district board of directors, which governs both the clinic and the ambulance service. Clinic service members and provider tenure are varied. The administrator has been employed by the district for a little over one year. Most human resources activities for both the clinic and the ambulance service are conducted through the clinic with the exception of ambulance scheduling and EMS-specific training. Over the past year, the clinic has experienced a great degree of turnover in its provider staff. This concern that was brought to the attention of the team, as well as a lack of awareness and understanding about why this turnover has occurred, should be investigated.

Clinic Operations

A service plan agreement between the hospital district and the county commissioners was put in place in 1988. The service plan laid out expectations for 24/7 clinic access along with a volunteer ambulance service. A primary concern voiced to the team was the understanding that the service plan guaranteed the clinic would provide access to care on a 24/7 basis, but that this 24/7 access was not actually available. In talking with staff and board members from the clinic, this access was possible in the past through on-call providers. Due to provider turnover in the past several years, providing 24/7 access was no longer feasible and had not been in effect for several years. Many in the community voiced the opinion that this was a critical service and unsure of why it had been discontinued. Moving forward, a strong communications plan to connect with and engage the community for potential changes such as clinic services, hours and provider availability both for new offerings and those that are being discontinued will help prepare local citizens for changes and provide the clinic and hospital district the opportunity to gather input.

The district administrator oversees both the clinic and ambulance services and reports to the hospital district board of directors. Over the course of the year, this reporting structure changed with the ambulance service manager reporting to the board along with the administrator. A strong, consistent organizational reporting structure is needed to ensure efficient and appropriate governance structure and leadership of both clinic and EMS entities. Similar to the clinic, the ambulance service has seen turnover during the past year. As a result of a Department of Labor investigation, the district had to change its method of reimbursement for EMS service members and transitioned them to an hourly wage in mid-2014. During several months of the transition, ambulance service members continued to work on a voluntary basis to keep EMS services available for the community.

As the hospital district decides the future direction of both the clinic and EMS in the county, there is potential and need for optimizing cooperation and efficiencies between the two entities.

Custer County Ambulance

The Custer County Ambulance is staffed with a small group of employees who are strongly dedicated to EMS in their county. The service members appeared to have camaraderie and commitment to providing their service. However, some members were displeased with multiple aspects of their employment. The current state of affairs regarding human resources was found to have many opportunities for improvement.

Staffing

Custer County Ambulance is a 24/7 staffed part-time paid service whose employees work 36 hours per week. All employees are paid the same wage of $8 per hour-regardless of experience, longevity or scope of practice. The ambulance service manager is paid an additional wage for added responsibilities. It was unclear to the review team whether or not the night crew is based at the station or covers from home. The night crew receives pay for the 12 hours they are “on-duty” whether

or not they are at the station. Employees listen from home for a second 9-1-1 request for service on a volunteer basis in which they are not paid for being on call. If an extra resource is needed the employee "volunteers" themselves to the request, and gets paid for the hours assigned on the incident. Although the second 9-1-1 request for service was a "paid-per-call" model, the ambulance service members do volunteer call time to make sure the community has an ambulance service. The service members described this to be an extra personal burden with minimal incentive. The ambulance service manager recently developed a volunteer schedule for "paid for call" periods that was described as improving the second call request and night time coverage.

Typically, a single ambulance is staffed each day. This staffing model was found to be mostly effective to cover the call volume, with four incidents where the ambulance service could not be covered over a short period of time. In an interview with the consultative visit team, the service members voiced their displeasure with the wage they were paid and the inability to cover all emergency requests with the current staffing numbers. Recruitment is challenging due to wages below the cost of living and being non-competitive with nearby communities. ALS member recruitment was described as the most challenging and currently nonexistent. Despite Custer County Ambulance having challenges with recruitment, the service was able to utilize an onsite EMT and intravenous class partnered with Pueblo Community College to assist with current recruitment efforts. This was effective by adding to the BLS ranks including EMTs and EMTs with intravenous authorization.

The ambulance responds from one central station in the town of Westcliffe. The consultative visit team received a tour of the facilities and found an adequate station area. The service members have appropriate sleeping quarters, food preparation area, sanitary bathrooms and shower areas. The ambulance service quarters also had appropriate staff gathering and resting areas.

Current service members described multiple employee fall out and poor retention while in the interview with the team members. The service members described multiple reasons they felt led to poor retention, including displeasure with non-livable pay, displeasure with district leadership and dissatisfaction with overall direction of the ambulance service. There were no previous employees interviewed during the visit.

District Dynamics

During the on-site visit multiple members from various aspects of the community, district staff, district leadership and board of directors communicated multiple incidents of conflict with the clinic administration. The relationship of Custer County Ambulance and the rest of the special district was described as poor by the ambulance service, hospital district administration and board of directors. Most employees cited a poor working relationship between the ambulance service manager and district administrator as highly influential on the poor relationship with the service. The ambulance service manager and board of directors detailed the ambulance service manager reporting directly to the board instead of the district administrator as outlined in the district's organizational structure. The administrator stated that this allowance by the district board has caused multiple issues with the overall operation and financials of the district.

The district administrator noted that the ambulance service changed from a paid-per-call structure to a paid service without an appropriate funding mechanism assured prior to the change in model. This decision by the board of directors was influenced by a previous "independent contractor paid-per-call" model, which was recently found by the Department of Labor as being non-compliant. It was described that the ambulance service manager was also highly influential in this change in model. The board of directors decided to utilize the paid model versus a volunteer model, which has caused a large financial strain to the overall district including EMS and its sustainability.

The ambulance service manager at the time of the consultative visit was the only Paramedic in the agency, and was required to perform all manager duties as well as function as a provider on the ambulance. She had experience working in a high volume urban system prior to working as the ambulance service manager for Custer County Ambulance. She had no role in management prior to this current position. After the on-site visit, while this report was being written, the ambulance service manager left the agency and the assistant manager took over responsibilities.

The former ambulance service manager stated she did not have any formal education in management of an EMS operation or leadership. She described feeling unconfident in all aspects of the management responsibilities. However, she described confidence in her paramedic patient care role as well as a high degree of department and community advocacy.

The former ambulance service manager noted multiple aspects of the department that have improved under her tenure including inventory oversight, scheduling improvements, credentialing verification, recruitment of a few new members and members who had previously worked in the department. She also described achieving appropriate staffing to cover all paid daytime shifts and an improvement in paid-per-call scheduling and staffing at night. She also drafted a policy and procedure manual for the department, which had not been approved at the time of the on-site visit period. The ambulance service manager arranged for 12 continuing education opportunities per year with six of the continuing education opportunities having medical direction on-site. All of these items are appropriate, positive improvements in human resources functions of EMS.

New Hire Orientation and Annual Review

At the time of the consultative visit, orientation was described to consist of new employees attending a two to three day department orientation, and then working directly with the manager who clears the new hire to work independently in the system. There was no standard or formal measurement of expected documented performance during this process. The former ambulance service manager described ALS orientation being the same as BLS orientation, except that the ALS new hire would directly work with the manager for a few more shifts than the BLS staff, and was independently cleared after the manager was comfortable with him or her. There was no medical direction involvement or clearing described during the field orientation process.

There was no description of annual review of the employees or a clearly defined expectation of the job performance. There were routine departmental meetings performed monthly. The ambulance service has an agreement with the fire district to put new hires through driving education to safely operate an ambulance; however, the program has not yet started. No other employment safety education was currently being performed including safe lifting, PPE, all hazards safety or EMS building safety. There was no report of completing culture diversity, workplace violence, self-protection, HIPAA, fatigue awareness or acute or chronic stress management (resiliency) education. The department did describe an available resource, provided by the district, should stress management need initial intervention. The district clinic was providing recommended vaccinations to the service members as requested.

Custer County Ambulance has many positive human resource aspects to its program. Serving as the main provider of EMS services in the county, it is essential that it continue to improve and become a strong leader and participant in the county's public service programs.

Recommendations

- Maintain a strong, transparent communications plan to build public trust and awareness and communicate changes to the clinic such as in services, hours and available providers.
- Evaluate standardization and documentation of processes that can assist when staff turnover occurs.
- Utilize available training and resources. For example, the Colorado Rural Health Center offers Healthy Clinic Assessments that evaluate basic clinic operations and efficiencies. Other training includes periodic board training offerings, and billing and coding trainings.
- Strengthen the hospital district's organization structure and improve intra-district relationships. Relationships are the beginning of any quality service. The ambulance operation should be in alignment with the hospital district and the ambulance service manager, district administrator and the board of directors should work to establish quality professional relationships. The organization structure should be established and the chain of command followed for the continuity of the district's mission.
- Recruit an ambulance service manager with education, knowledge and experience in EMS operation management. This manager needs to have comprehensive understanding of all aspects of the operation including financials. The ambulance service manager should have strong leadership qualities, effective communication and conflict resolution abilities. The 3 mill levy will in fact assist EMS in longevity of service. However, the ambulance service needs to maximize all potential financial revenue with responsible spending to achieve its future goals. Financial revenue should come from maximizing patient care revenue, and application of grants. The ambulance service manager needs to have a working knowledge of how to successfully maximize both of these revenue options. There should be an emphasis on knowledge of EMS financials by the ambulance service manager.
- Establish EMS policies and procedures. Custer County Ambulance currently does not have an approved policy and procedure manual. The department needs to establish guidelines outlining how an employee performs job duties. These guidelines will assist in regulatory compliance, effective financials, safety and hazard mitigation, develop structure and organization, provide

a better cohesiveness between public safety partners, and provide a measureable standard that employees are held to. Manuals should be reviewed from multiple perspectives utilizing the SMART or equivalent pneumonic. Each policy and procedure should be specific, measurable, achievable and realistic, and have a time component addressed in the document. Each policy should be reviewed by hospital leadership, ambulance service manager and medical direction to be certain that the policy is in compliance with all regulatory oversight. Each appropriate policy should be reviewed by public safety partners when applicable to assure continuity.

- Provide an annual safety education program within human resources annual education. The ambulance service manager should work with the district's HIPAA security and privacy officers to establish HIPAA training for EMS providers. They should also work with the facility manager to establish fire, electrical, chemical and safe work environment education. Emergency vehicle operation training (EVOC, CEVO, VFIS) should be implemented as a requirement for new member orientation and annually refreshed for all members. The manager should seek out information from the district's human resources officer to establish training guidelines necessary to meet labor law compliance, including workplace violence, harassment, conflict resolution, cultural diversity and infection control/bloodborne pathogen class as requirement for new member orientation. Other topics that could be incorporated into employee education may be safe lifting, wellness, fatigue awareness and acute and chronic traumatic stress awareness. Information on these topics may be found with local public and healthcare partners or found online for a low cost through distributive learning models. Competency assessment should be performed to assure the employees understand each aspect to promote compliant, healthy, and safe working environments.
- Consider an alternative shift schedule. The ambulance service has had some difficulty covering day shifts as well as maintaining night coverage. It is recommended that the service consider utilizing an alternate staffing plan. This alternative could utilize the 48 hour on/96 hour off schedule or 24 hour on /48 off schedule. This adds an increase in annual pay for the service members as well as rotates days of the week on-duty. Both schedules allow for appropriate down time after being on duty for extended hours. They each require three ALS and three BLS full time equivalents to meet a seven day a week, 24 hour per day coverage. It is recommended that second call remain a paid-for-call model due to the low call volume of the system.
- Develop an annual review of policy and procedure. After completing the development of the policy and procedure manual the department should develop an annual review process. Each policy should be looked at individually and reviewed. EMS is rapidly evolving and many changes are occurring throughout the industry's various aspects. It is important that the policy and procedure reflect the current expectations in the district and industry. The ambulance service manager will need to position him or herself to receive communications regarding critical information and updates by getting placed on the email lists of EMS associations, CDPHE and other regulatory authorities. Many education opportunities arise throughout the state in which the manager and medical director should be strongly encouraged to participate.
- Develop a performance based review field training program. This process should have oversight from medical direction for all clinical applications. Both BLS and ALS scopes of practice should

have a field training process to establish understanding of the operation as a new hire. The performance standards should be assessed either through incident performance, skills or competency lab, or a didactic examination. Some sample topics include, protocol knowledge and competency, safety procedures, policy and procedure and an overall scope specific competency. It is recommended that the field training process be extended in length and individualized. The new hire should remain in this field training program until accurate documented performance is assured prior to working independently.

- Develop an annual performance review process. After the new hire is cleared from the field training program and is working independently, Custer County Ambulance should develop an annual review process. This process should include clear communication and documentation of the employee's performance and the employer's expectations. This process also establishes communication regarding the employee's goals within the department and assists the manager in utilizing the talents within the department. To assist in the development of employees' clinical knowledge and skills and improve future quality improvement aspects, it is recommended that Custer County Ambulance develop a well-rounded internal education program. This program should have a broad range of topics and emphasize high risk/low frequency, safety, and complex skills. By improving the overall competency the department will assist staff in feeling more confident in their ability to perform EMS functions at a high level.
- Develop a well-rounded continuing education program "state recognized training group." To assist in the overall cost of the delivery of the education topics and assist staff in maintaining their certifications, it is recommended that Custer County Ambulance work to attain Colorado education group status. By achieving this status the department could host and certify the continuing education being delivered within the education program. This would add a great benefit to employees as well as be a possible recruitment tool with other prehospital trained staff within the community utilizing this resource.
- Develop competitive salaries to attract EMS providers into the system. By performing the above recommendations Custer County Ambulance will set itself up for a sustainable workforce to carry on its general EMS operations. Although employees cite that "poor wages" are one of their biggest concerns, there are many other human resources functions that have opportunities for improvement which will help retain staff. Financial position and excellence in employee performance will drive increasing wages to a competitive status. Once achieved, the competitive wages become a utility in recruitment and retention efforts. Even with the mill levy, it will take the ambulance service manager and district administration time to grow the appropriate funds to adjust wages substantially.
- Develop opportunities to increase employees' scope of practice. It is recommended that the department look for new and innovative functions of EMS to assist in the district's overall mission and goals and improve financial revenue capture. This could include mobile integrated healthcare or community paramedic functions, clinic utilization of ambulance service members, internal billing and coding, EMS patient navigators or EMS/public health educators. The ambulance service should maintain an adequate understanding of each discipline and current media regarding these topics. Utilizing the board of directors and district administration, the district should discuss each of these topics and potential positive impact on

the overall mission. Grant funding may be necessary to provide the initial financials to achieve any one of the disciplines. Long term planning in strategic format under the district's plan would need to be utilized to assist in some of these future programs

- Seek out distance learning opportunities. The ambulance service should develop a plan to assist current staff in increasing their scope of practice. EMTs should have the opportunity to achieve Intermediate or Paramedic certification. Being rural and remote, distance learning education opportunities would be best utilized to achieve this. Education centers across the country are working to help move post-primary education opportunities to nontraditional methods of instructions to assist rural communities. The ambulance service should communicate its need with EMS education centers to assist in delivering a distant learning scope enhancement model. Some of these models have been attempted successfully in the state already. Available funding opportunities should also be utilized. For example, funding is available through the state Colorado Resource for EMS and Trauma Education (CREATE) grant program managed by the Colorado Rural Health Center to fund training for emergency medical and trauma staff.

Medical Direction

Medical Direction Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
The medical director actively participates in the system	4	6	5	4	10	13	3.34	42
The medical director regularly monitors clinical performance	5	3	2	4	8	20	3.32	42
The medical director actively participates in EMS activities in the community	8	4	6	4	3	16	2.60	41
The medical director is consulted on EMS system issues	2	4	4	7	6	18	3.48	41
The medical director is consulted on clinics issues	5	3	2	1	9	20	3.30	40
						answered question		**42**
						skipped question		**4**

Kevin Weber, MD has been the medical director of Custer County EMS for the past six months and he has made two visits to the agency to present educational topics during this time. Additionally, Dr. Weber has reviewed patient care reports as needed.

Dr. Weber has served, and continues to do so, as the regional medical director for the Southern Colorado RETAC. He practices emergency medicine at St. Mary Corwin Medical Center in Pueblo and provides EMS medical direction for a significant number of other agencies in the region. He has a strong background in EMS and his association with Custer County EMS is certainly beneficial.

Dr. Richard Amesquita has recently joined the Custer County Medical Center to provide medical care. Dr. Amesquita has a background in EMS through his association with the U.S. Army and as an

emergency physician. During a telephone interview between the consultative team, Dr. Weber and Dr. Amesquita, it was clear that Dr. Amesquita has a desire to work with the staff of Custer County Ambulance in an advisory role.

The team believes that this local association between Dr. Amesquita, Dr. Weber and the Custer County Ambulance is likely very positive. We hope this relationship will grow and provide benefit to patients and personnel connected with EMS and the Custer County Medical Center.

Custer County Ambulance utilizes the Southern Colorado RETAC regional protocols. The protocols were reviewed and appear very consistent with both advanced life support and basic life support standards found elsewhere in Colorado. They are updated at appropriate intervals and are well written. Additionally, the protocols feature a very useful algorithmic presentation as an option for the providers.

Recommendation

- Work to strengthen the relationship between Dr. Weber, Dr. Amesquita and Custer County Ambulance. Overall, medical direction is an asset. The team believes that the combination of local physician input working along with the medical director will enhance the Custer County EMS and clinic providers' level of care resulting in benefits to the patients served.

Clinical Care

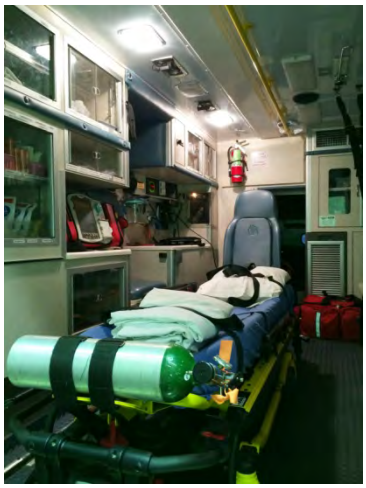
Clinical Care Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree

Answer Options	1	2	3	4	5	Don't Know	Rating Average	Response Count
Capability to provide critical care interfacility transport is available locally	6	11	4	7	4	11	2.75	43
The level of clinical care is consistent across Custer County	4	12	6	7	3	10	2.78	42
The quality of EMS is consistent across Custer County	2	7	9	7	8	10	3.36	43
The EMS system has good clinical protocols	0	0	3	6	10	24	4.37	43
The EMS protocols are up-to-date	1	0	4	3	11	24	4.21	43
EMS protocols are coordinated between EMS agencies including mutual aid agencies	1	1	5	3	8	25	3.89	43
EMS care providers are well trained	2	3	9	8	10	11	3.66	43
Clinic care providers are well trained	2	7	6	10	5	13	3.30	43
EMS care providers are experienced	6	6	7	10	5	9	3.06	43
Clinic care providers are experienced	3	3	7	10	7	13	3.50	43
							answered question	43
							skipped question	3

No patient records were reviewed as part of this visit. Custer County Ambulance has limited advanced life support (ALS) services available, and because of that, the majority of providers function at the basic life support (BLS) level. Discussions with members of the community as well as review of the pre-

visit survey reveal that Custer County Ambulance providers are very highly regarded and are extremely committed to their roles in EMS. They are dedicated and seen as both well qualified and well trained professionals. They do all of this despite their long history as volunteers and recent change to part-time paid status. During the team's interview with Drs. Weber and Amesquita, Dr. Amesquita observed that the crews did good work. Custer County Ambulance personnel are to be commended for their excellent work and resultant community reputation.

The use of helicopter EMS is an option that Custer County Ambulance utilizes when needed to effect rapid ALS transport. The Custer County EMS protocols outline suggested criteria for helicopter EMS activation. It was mentioned to the team that if there is no available crew for a second request for service, the option the dispatcher has is to request a helicopter for a scene flight.



As stated in the *Medical Direction Section*, Dr. Weber has made two educational presentations in the past six months. Reviewers were informed by the ambulance service members that monthly education is provided by in-house staff. These trainings typically last from one to two hours and some of these trainings occur jointly with the local fire department. Additionally, at least one EMT course is offered annually in the community and continuing education credit is provided by St. Mary Corwin Medical Center and Pueblo Community College. Opportunities exist for future state grant applications for educational needs for Custer County Ambulance service members through the Colorado Rural Health Center by means of the Colorado Resource for EMS and Trauma Education (CREATE) grant.

Infrequent situations likely have, and will, occur in which a seriously ill or injured EMS patient might benefit from emergent intervention by a physician or advanced level provider during Custer County Medical Center hours. Consideration should be given to the identification of clinical criteria most likely to benefit from prompt assessment and treatment by clinic staff.

Recommendations

- Continue monthly in-house trainings. Coordinate the topics to ensure continuing education needs are met. Enhance already on-going joint trainings with Wet Mountain Fire Department staff. Consider inviting Custer County Search and Rescue staff to trainings, as appropriate.
- Review available grant opportunities through the Colorado Rural Health Center CREATE grant process and the Colorado Department of Public Health and Environment's Emergency Medical and Trauma Services Branch to help offset training costs including facilitating personnel attendance at state-wide EMS conferences.
- Continue the annual EMT training course offered in the community. Identify grant opportunities through the CREATE grant process that may be available to reduce expenses for students.
- Explore opportunities to add ALS qualified staff to Custer County Ambulance. Since the ballot initiative to increase EMS funding has passed, there should be funds available to attract one paid ALS provider per shift to the area.

- Consider at least partial financial sponsorship to either an Intermediate or Paramedic training course for an eligible EMT willing to commit to service with Custer County Ambulance after completing training. Seek additional CREATE grant support for such a venture.
- Work with clinic medical and administrative staff, the EMS medical director and EMS leaders to develop clinical patient criteria likely to benefit from clinic transport, during clinic hours.

Education Systems

Education Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
Leadership training is available for EMS administrators, managers and supervisors	5	5	3	2	2	25	2.47	42
Leadership training is available for clinic administrators, managers and supervisors	3	2	4	1	3	29	2.92	42
Custer County Ambulance provides continuing medical education for their employees or volunteers	1	1	8	4	8	20	3.77	42
The clinic provides continuing medical education for their employees or volunteers	2	2	5	5	3	24	3.29	41
							answered question	**42**
							skipped question	**4**

Common to many rural communities, EMS education in Custer County suffers to some extent from isolation, as well as a lack of funding. Although there is a strong sense of community, as well as solid support for the local EMS program, both volunteer and paid Custer County Ambulance members must have extraordinary commitment to obtain and maintain EMS certifications.

Primary EMS Courses

Custer County Ambulance has demonstrated some mixed success by collaborating with Pueblo Community College (PCC) to provide local EMT classes, eliminating the travel time to Pueblo. By using the community college affiliate instructors and paying a per-course administration fee of $1,500, interested community members and Custer County Ambulance members have successfully completed EMT courses locally. EMT students must contract with Custer County Ambulance or already be active service member drivers to be eligible. As the Wet Mountain Fire Protection District does not provide EMS response, only Custer County Ambulance personnel, or those with membership in both organizations, have become EMTs.

Custer County stakeholders share a common sentiment about advanced level prehospital practice: that ALS service is desperately needed, but very difficult to “grow” and maintain. ALS level providers generally make the commitment individually or come to Custer County Ambulance already certified. The distance to this level of education, including the time-consuming clinical rotations, make it challenging for Custer County residents to advance to the ALS level of provider. As far as the consultative visit team is aware, there have been no discussions about distance learning options as of yet.

Continuing Education

Monthly continuing education sessions (one to two hours) are conducted with some regularity. A spacious section of the Custer County Ambulance building was originally designated as a training room, but it is currently unheated and used for storage. Funding for training aids has historically been limited, although plans to improve have been underway. Service members are currently paid at their standard hourly rates for approved continuing education. The medical director is expected to conduct approximately one training per quarter, and in the past six months he has been out twice to conduct trainings. Combined training events with Wet Mountain Fire Protection District personnel are limited to auto extrication and helicopter landing operations.

Colorado Resource for EMS and Trauma Education (CREATE)

Custer County Ambulance has not yet applied for education assistance funding from CREATE. This is one avenue that the service could pursue to help offset training costs for new members or existing members.

Member Orientation Training

Custer County Ambulance currently has no defined orientation program. In general, the manager rides with new BLS or ALS providers for a couple of shifts before allowing them to function independently with just a driver. ALS personnel are trusted to an even greater extent, and there is no standard for medical director involvement in new provider orientation.

Safety

There is currently no emergency vehicle operator training offered or required, although a course through the fire district is planned. Infection control training has not yet been offered as part of orientation or continuing education.

NIMS

Incident Command System (ICS) compliance training through the NIMS system has been discussed and planned, but not yet started.

Recommendations

- Make education and hands-on training an organizational priority starting with new members, continuing through a defined program. Reclaim the Custer County Ambulance training room and budget funds to progressively make it a comfortable, well-equipped facility.
- Establish a training position within the organization to help manage the program and maintain records. Encourage ALS and strong BLS personnel to be instructors in order to maximize the number of available personnel to conduct training.

- Continue to develop partnerships with training centers such as Pueblo Community College, Saint Mary-Corwin, and other educational facilities to provide local EMT courses, as well as Advanced EMT courses and continuing education.
- Engage the medical director to assist with a quality assurance/quality improvement driven continuing education program.
- Implement rotations for the EMTs, Intermediates and Paramedics to do shifts in the clinic to gain experience in vital competencies, such as adult/pediatric assessments and venous access.

Public Access

Public Access Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
The public can easily access EMS services	0	5	9	12	16	1	3.93	43
Emergency medical instructions are provided to callers when dialing 9-1-1	1	5	3	9	4	21	3.45	43
Interfacility ambulance transport is readily available when needed	4	9	13	3	5	8	2.88	42
The public can access 911 in all areas of Custer County	5	6	5	7	4	16	2.96	43
There is good access to EMS in all areas of Custer County	6	8	8	7	3	11	2.78	43
There are enough response units to provide a quick response to every call	16	11	10	3	1	2	2.07	43
						answered question		**43**
						skipped question		**3**

Custer County is covered by the universal 9-1-1 emergency access number. 9-1-1 calls are answered by the Public Safety Answering Point (PSAP) located in the Custer County Sheriff's Communications Center. The center has a relatively new Cassidian Patriot System maintained by CenturyLink that is capable of handling the landline and cell phone activity. However, they are not receiving the phase two wireless latitude and longitude capabilities to locate a cell phone caller who is unable to provide a geographical location or address. The cell phone coverage in the county is location specific and does not appear to provide constant and reliable coverage. According to the dispatch supervisor, emergency medical dispatch instructions are being performed per the State of Colorado EMD Pre-Arrival Instruction protocols when time allows but, without a medical director as a public access tool. The county uses CodeRED for reverse 9-1-1 to notify citizens of potential or impending hazards.

Recommendations

- Explore improving and updating the emergency medical dispatching (EMD) process. EMD is a valuable tool, especially in rural areas, because it allows for the provision of some emergency care by bystanders prior to the arrival of EMS response resources.

- Explore using phase two wireless processes to assist in locating 9-1-1 callers who cannot provide a location or address.

Communications

Communications Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
Local cell phone coverage is adequate	21	10	9	0	0	3	1.70	43
EMS and trauma care organizations have good access to broadband internet service	8	6	5	10	3	11	2.81	43
Public safety agencies have an effective radio system	1	4	10	12	10	6	3.70	43
Fire and EMS have the ability to communicate over radio frequencies	0	1	3	15	18	6	4.35	43
Adjoining areas for mutual aid have the ability to communicate with local EMS and fire agencies over the radio	1	3	4	12	13	9	4.00	42
							answered question	**43**
							skipped question	**3**

Custer County Ambulance is dispatched by the Custer County Sheriff's Office, which is on the state 800 MHz digital trunked radio system. Notification to the ambulance service of a request for service occurs on the 800 radio system first by tones then a voice dispatch. The ambulance service does not have another option, causing this to be a single point of communications for them to operate. The fire department however, is dispatched on a separate VHF system. If the need arises, communication interoperability with neighboring systems can be achieved through the 800 MHz radio system.

During the onsite visit with EMS crews, it appeared that on a regular basis communication interoperability is not happening between agencies. The consultative visit team did not find the radio system to be problematic as it seems to provide a basic coverage for the EMS operations, but it appears the loop closure is needed between the agencies themselves.

The Custer County Communications Center is staffed 24 hours a day, split by eight hour shifts. There is one primary dispatcher with a second position available if the system gets busy. The communications center operates without a computer aided dispatch (CAD) terminal; however, all 9-1-1 phone calls are recorded. Therefore the on-duty dispatcher uses a pen and paper system, which then gets documented on an Excel spreadsheet. Per the dispatch supervisor, if a 9-1-1 medical aid request comes in, emergency medical dispatching (EMD) instructions are provided when time allows through the State of Colorado EMD Pre-Arrival Instruction protocols. This is a concern as the communication center does not have a medical director, which is a requirement in order to participate in an EMD system.

Recommendations

- Look at upgrading the dispatching process to a computer aided dispatching (CAD) terminal from a pen and paper system. Utilizing a CAD for dispatching will allow for easier tracking and control of emergency situations and limit loss of information that transpires when using a pen

and paper system. In addition, requests for service through dispatch could be expedited and future implementation of emergency medical dispatching would be possible.

- Consider contracting with a medical director for oversight on emergency medical dispatching (EMD) to ensure the 9-1-1 callers for medical aid request are receiving proper emergency medical instructions per EMD protocols.

Information Systems

Information Systems Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
Ambulance services collect and upload electronic patient care data to the state system	1	1	1	3	8	29	4.14	43
System performance data is regularly collected and analyzed	1	1	4	3	6	28	3.80	43
The ambulance and clinic electronic health records are integrated	9	0	3	0	0	30	1.50	42
Information technology needs are being met within the EMS and trauma care system	2	2	4	5	1	28	3.07	42
						answered question		**43**
						skipped question		**3**

The current status of affairs for Custer County Ambulance and information systems involves a low overall use of available modern information systems to maximize collaboration and sharing of information. The ambulance has very little data being stored, utilized or shared to assist with the service's overall performance. Various priority systems currently being utilized have little or no redundancy planned should an information system become dysfunctional.

The ambulance service utilizes email systems to communicate and share written documentation. Word processing and spreadsheet programs are utilized to assist in overall written documentation and records management. However, no file sharing systems were in place to allow easy sharing of larger files or multiple sequential files with surrounding partners. There is also no enhanced communication or collaboration meeting software being utilized, despite being located far from regional public services and healthcare partners.

Upon search, there were two websites found currently operating. One is owned by the county with minimal information about the service. The other is owned by Custer County Ambulance and is under construction in its entirety.

Radio/Cell Phone

Real time patient care issues are communicated with destination hospitals or medical control, through cell phone to biophone line communication. There were many assessed "black holes" in cell service in the county area. The ambulance did have specified 800 MHz frequencies assigned to utilize for communication with the receiving hospitals. Ambulance service members and management had no ability to access the recordings of communications. The service transported to hospitals in Pueblo, Canon City, and occasionally Salida.

Communication from dispatch regarding an EMS related incident occurred through Custer County Communications Center. Communication occurred through 800 MHz radio frequencies. There were reported incidents where the 800 MHz system was dysfunctional and communications occurred through cell phone or landline systems for dispatching of resources. There was no utilization of mapping or dispatch public record sharing to assist with safe and efficient EMS operation. Currently there is no system in place for effective interoperability to communicate status of receiving destinations, or availability of neighboring ground or air service resources.

Patient Care Reporting

Custer County Ambulance is currently utilizing the ImageTrend Electronic Patient Care Report software (ePCR). This software was described as a private license of ImageTrend and not the State of Colorado sponsored license. This private license meets all Colorado state regulatory data reporting requirements. The ambulance service members described that all patient care reports are documented in this system. However, the ambulance service does not have standards of data entry requirements. Crews complete their reports at the receiving facility via laptop and leave a hard copy patient care report at the receiving hospital. The ePCR has the ability to transmit the patient care report to receiving hospitals, the EMS billing provider and the state database.

The ambulance service manager at the time of the consultative visit was not utilizing any administration functions or settings of the program, including utilizing the data report generator function. Additionally, the quality assurance function to allow efficient oversight by medical direction was not being utilized at the time of the onsite visit. Dr. Weber, the medical director, and the destination hospital EMS coordinator/liaisons have no access to the ePCR system for quality assurance/quality improvement review. Currently PCRs are reviewed after being sent to the medical director via email. Additionally, there is no collaboration of EMS patient care report records being shared with the clinic for quality review.

The ePCR system did not incorporate or utilize any transfer of information to the third party billing company. There was no described access to patient care revenue data and communication from any member within the ambulance service. Communication regarding the third party's documentation quality assurance/quality improvement program involved a rare phone conversation with the department manager despite a low collection rate.

The department has many opportunities to improve the barriers associated with building communication, collaboration and information sharing to improve the overall efficiency and effectiveness of the department.

Recommendations

- Learn the functionality of the ImageTrend software and its uses. By utilizing this functionality, the service will be able to make chart review with medical direction much more efficient. As soon as a patient care report is entered, the medical director could have access to the chart

for review. Medical direction should have access to this system and complete the necessary training to utilize the quality assurance function within the ePCR system.

- Coordinate with the third party billing company to develop an information system to maximize effort to improve patient care revenue. Maximizing patient care revenue and billing in a compliant manner is necessary to optimize revenue financials and improve the overall program. The system(s) in place should allow for quick transfer of information to the third party billing service. The third party billing service should have easily accessible feedback through an information system. This could be performed through the third party company's interface or through utilizing a file sharing software. There are many file sharing software options, and most are free and secured and can share large files or many files at once. With the ability to maximize efficiency in obtaining the third party billing company's feedback, key improvements in efficiency of billing practices could be performed.
- Utilize enhanced meeting, communication and collaboration software and file sharing software with medical direction, dispatch and other regional healthcare partners. Due to the remote location of Custer County Ambulance, there is an added challenge to be a full participant in all regional meetings, planning and reviews. It is recommended that the service utilize meeting collaboration software products. These products are mostly free or low cost unless there are many participants involved. It may be beneficial to purchase a regional license and distribute the cost across multiple departments for collaboration and sharing. Typically, cost can be less than $500 annually for multiusers. These types of software will enable Custer County Ambulance and other partners to participate in meetings, planning and review and keep participants in the district for coverage of 9-1-1. It will also decrease travel cost.
- Implement a secondary resource deployment system with mapping function. Many of these products are being developed and improved to assist EMS services primarily in rural systems with volunteer models. Information in these systems is shared by the Internet, which is common in workplaces as well as residential settings. Most utilize cell phones or computers and can been tied directly to the CAD system in dispatch centers. At time of dispatch of an incident, information is pushed through CAD and distributed to all cell phones, tablets and computers listed with a direct link to mapping software. If devices are GPS enabled, they can rapidly route current location to the incident location. These systems would add a redundancy into the 800 MHz dispatch program as well add efficiency to response times.
- Utilize enhanced communication and collaboration software and file hosting systems for EMS education programs. Improvement in communications with interoperability systems would add efficiency and effectiveness in patient care. This could be beneficial for routine operations as well as assist in MCI disasters in region wide resource utilization. Custer County Ambulance utilizes air services and mutual aid partners to assist in county EMS response and care. They also transport to various hospitals in three different communities. At time of dispatch of incident the EMS providers do not have an understanding of the resources currently available within the system. Utilizing enhanced interoperability software could help this sharing of information. There are multiple healthcare and public service entities utilizing EMResources for this same purpose. The local RETAC can be a strong player in obtaining this function, not only for Custer County Ambulance but for the entire region. The majority of time, the ambulance service members are at the station when an incident is dispatched. For this reason, a real-time

monitor should be placed at the station and another monitor placed in dispatch to assist with resource utilization while EMS is on an incident. There is an annual grant for disaster preparedness offered by Colorado Department of Public Health and Environment for hospitals and clinics called the Hospital Preparedness Program grant. The grant requirements are easily obtainable and this type of software could be appropriately purchased with these funds.

- Update the department's website. In today's technological climate, website communication is valuable in marketing a business. Although Custer County Ambulance is a public service business, marketing the department would have many benefits. Recruitment efforts could be added through job postings. Many agencies post a company calendar to communicate events and meetings. Some utilize it for schedule planning and time off requests. It can be utilized for community polls and surveys of the service as well as help with preventative education for the community. It is recommended that the department update the service website and plan objectives of its uses.

Public Education

Public Education Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
The public understands and supports the local EMS and trauma care system	7	11	9	7	6	2	2.85	42
Regular efforts are made to inform the public about EMS and trauma care	7	7	9	8	6	6	2.97	43
Regular efforts are made to inform policy makers about EMS and trauma care	6	2	7	8	8	11	3.32	42
							answered question	**43**
							skipped question	**3**

Custer County Ambulance and Wet Mountain Fire Protection District both participate in an annual Fire Safety Days event in which they interact directly with community members, educating them about their mission and current needs. The ambulance service also holds an annual pig roast, during which the community is welcomed to the station for food and tours. Both of these events allow for quality time with interested members of the community.

Both the ambulance service and fire department also participate in community education opportunities through the school. Custer County Ambulance service members teach high school students basic first aid and CPR during their freshman health class. Wet Mountain FPD members teach fire-safety programs at multiple grade levels. The ambulance service also provides CPR/AED and first aid classes at no cost to community members, including to the Wet Mountain FPD volunteers. An RN with Custer County Public Health also conducts community CPR classes with some regularity. Public health engages the community in educating the public via newspaper articles and a monthly library outreach in which community members' questions are answered. Rabies and Hantavirus have been recent topics. In addition, there is a five year plan for community outreach on obesity.

Recommendations

- Consider assigning a public education coordinator within the ambulance service to continue developing the current activities and seek new opportunities. The public education coordinator should provide public education designed to 1) continually inform the community about the EMS program, 2) improve community health through awareness, and 3) train the community to "become part the EMS system" through first aid, CPR and AED training. In addition, make public education part of the job expectations of all Custer County Ambulance service members.
- Develop a public education program that meets the needs of all community members, including school-age children, adult and seniors.
- Engage stakeholders to conduct a regional risk assessment to identify public education needs and potential funding sources, if needed.
- Routinely evaluate the effectiveness of the public education program and identify new opportunities.

Prevention

Prevention Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree

Answer Options	1	2	3	4	5	Don't Know	Rating Average	Response Count
An analysis of local injury and illness data is performed regularly	3	0	7	1	0	31	2.55	42
Prevention programs are developed based on local needs	1	1	6	9	0	26	3.35	43
Prevention programs are regularly offered to the community	1	3	7	8	1	23	3.25	43
							answered question	43
							skipped question	3

Custer County Ambulance and Wet Mountain Fire Protection District both stay active with various community-based events, but no formal program exists to help reduce morbidity and mortality through concerted prevention activities. The Wet Mountain FPD regularly conducts fire-safety programs at the school, and includes the State Patrol Crash Car/Drunk Car at the annual Fire Safety Days event when it is available.

Public health participates in an immunization program for children, the Health Fair and flu shots for community members. The community health clinic is not active in any prevention activities, and during the interviews, the director emphasized that public health takes the lead role in prevention activities.

Automated External Defibrillators (AEDs) are already somewhat prevalent in the community. Current AED locations: Wet Mountain FPD (2), law enforcement (7), school system (2), health department (1), Club America (1), and other local businesses (2). No formal public access defibrillation (PAD) program exists currently to provide oversight, deployment reviews, medical direction, site plans and/or training.

Recommendations

- Custer County Ambulance should make a commitment to engage in community-wide, multi-disciplinary illness and injury prevention activities. Prevention should be recognized as not only a method to improve the health and safety of the community, but as an avenue to connect with the community in a mutually beneficial manner.
- Engage the RETAC, fire departments, community health clinic, public health, schools and other stakeholders to conduct a regional risk assessment, and then develop an achievable prevention plan.
- Use on-duty ambulance service members to carry out prevention activities, when possible.
- Consider assigning a prevention coordinator within the ambulance service to maintain accountability as a focus in the prevention program.
- Develop a structured public access defibrillation (PAD) program, and identify a Custer County Ambulance member to coordinate the program. Contact the Colorado Rural Health Center or the Southern Colorado RETAC for assistance. Utilize available funding through Colorado Rural Health and the RETAC to increase the number of AEDs in the community. Once the PAD program is established, bring current AED placement locations into the program, and identify target locations for new placements. Develop site plans to assure AEDs are deployed when needed, and include training for "targeted users" and other community members.
- Routinely assess the effectiveness of the prevention program.

Mass Casualty

Mass Casualty Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
MCI exercises are performed at least once a year	6	0	2	6	10	19	3.58	43
Custer County Ambulance and area fire departments perform MCI exercises annually	6	1	3	5	9	19	3.42	43
EMS and trauma agencies participate in annual MCI exercises	6	0	4	7	8	18	3.44	43
EMS agencies and facilities have written mass casualty response plans	1	0	5	7	7	21	3.95	41
EMS and trauma care leaders are aware of local and state emergency management efforts and programs	1	1	4	6	9	20	4.00	41
							answered question	**43**
							skipped question	**3**

Mass casualty incident (MCI) management in Custer County is typical of operating in a rural environment. There are many definitions documented on how to define a mass casualty incident/scene. Most require an incident to need more resources than currently available to manage a situation, and the system is capable of recovering to normal operations without assistance from a higher authority. Disasters have a similar definition; however, normal operations are completely

stopped and higher authority is needed for management of the event and recovery to normal operations.

Resource Availability

Custer County Ambulance has very few emergency response resources that are utilized on any given day. Most resources will be the "basics" of the operation including: financials, staffing, fleet, equipment and communication programs. Resources are located in a remote area with mutual aid partners 30 to 60 minutes away. The location and quantity of resources available in a given day put the system in a position to appropriately activate a mass casualty incident plan with a relatively minor situation. Due to staffing and resource issues, flight services are utilized as back up service for initial response to 9-1-1 incidents routinely. There are a total of three ambulances available to respond when all are in service. The probability of a mass casualty incident to occur without a large/major incident involving standard call volume from multiple requests for service is much more likelier than a mass casualty incident from a single multiple patient event.

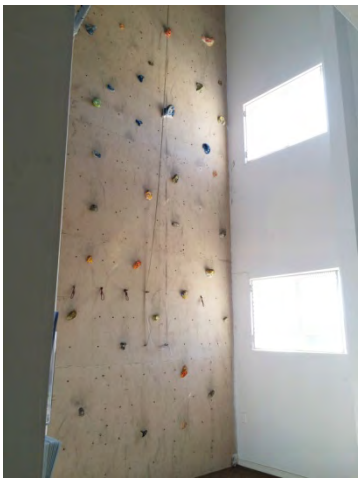
Current resources have few planned redundancies and are having difficulties maintaining standard operation. Key pieces such as, staffing, fleet and overall financials all are experiencing dysfunction currently. This puts the agency at higher risk of not being able to manage a large/major event utilizing outside sources.

Hazard Vulnerability Assessment

Most services utilize hazard vulnerability assessments to assess risk and probability of outside human and natural disasters and develop emergency operation plans to assist in mitigation of the event. Custer County Ambulance is not currently performing this assessment; however, the county emergency management department is performing this function. There is a county-wide emergency operation plan that was described as outdated without recent update. The county emergency manager is qualified and a strong leader within the county. Her efforts of promoting multiagency coordination were apparent during the team's onsite visit.

Multi-agency scenarios and tabletops were performed on occasion with well-rounded participation. Exercises were coordinated by the fire department or OEM and covered a broad range of topics. As with all agencies, communication and interoperability were the two biggest challenges noted. There were no reported exercises led by EMS or the public health department. During the on-site visit, a multi-agency meeting occurred with adequate participation from representatives of Wet Mountain Fire District, Rye Fire District, Fremont County Fire/EMS and Custer County Office of Emergency Management, Beulah Fire District, Wetmore Fire District, Custer County Search and Rescue, Custer County Dispatch, Colorado State Patrol Dispatch, Custer County Sheriff's Office and Pueblo County Sheriff's Office. The meeting agenda was to work on communication challenges and discuss key areas within the county where the most communication difficulty occurred. The emergency manager noted that there are a few current mutual aid agreements within the area (Pueblo and Fremont) but all agencies involved had stated a position of aiding the other agencies. Most had few resources assigned in a given day and were prone to a mass casualty situation from internal factors as was Custer County Ambulance.

Training



Some members of Custer County Ambulance were familiar with the National Incident Management System (NIMS). Not all staff had completed the basic incident command system (ICS) courses and EMS management had not taken any ICS course other than ICS 100, 200 and 800. During the visit, the manager described that there was a protocol in place where the first arriving responder could activate the incident command system; however, this was not routinely practiced. There was no scripted or checklist communication to initiate the command system. A typical checklist would include type of incident, additional resources needed, safety risks, radio communication, ingress and egress routes or notification of destinations.

Clinic's Role

The clinic is not part of any planned or practiced mass casualty situation. The clinic has not utilized the hospital incident command system (HICS) or achieved incident command training in disaster planning. The clinic has no radio communications with local or regional entities. There were poor relationships noted between many other public service entities and the clinic. The clinic has two resuscitation rooms and six potential patient care areas with a doctor, nurse and a tech on duty during operation times, which is limited to standard daytime business hours. There is also limited radiology, lab and specialty care functions available.

Communication Center, Search and Rescue, Fire Department

The communications center has only one dispatcher on duty at any given time. The dispatch supervisor stated the center was able to utilize two personnel if needed. She described situations where dispatch communication was overwhelming with one person staffed during routine operations. There were described "dead zones" with both cellular coverage and 800 MHz radio systems. Some of these areas were located near high risk highway areas that carry a higher probability of larger/major incidents occurring.

The search and rescue team and fire department were eager to assist in any way possible with management of EMS events. There were very few medically trained members in these agencies but eagerness and a substantial amount of manpower is potentially available.

Currently, there is no system in place for all agencies and entities in the region to enhance interoperability. Most of the departments have few resources to share, and resource availability is being performed through dispatch relay of communication. All destination hospitals serve communities larger than Custer County. Their populations carry a high volume and an inherent increased probability of disasters occurring within their communities. There was no communication from these hospitals with regard to their real time availability of resources.

Recommendations

- Strengthen routine operation and identify priority systems. The first action towards MCI management is having a solid well-functioning standard operation. When improvements are

made to the standard operation there are positive effects that also improve MCI management. It is important that EMS management and district administration identify key internal resources and their probability of dysfunction. Most resources will be the "basics" of the operation including: financials, staffing, fleet, equipment and communication programs. Awareness of the causes and effects of dysfunction on each resource allows the key positions to adequately plan to build redundancy into those systems. If dated financial and operational records can be found, these records can assist in understanding current weaknesses in the resources.

- Continue to build relationships with public and healthcare service partners. The next step to management of mass casualty incidents is to have strong relationships with the departments that will be co-responding or sharing resources during the incident. The incident will inherently include many unplanned events, and various reactive management strategies may be utilized. During these times the agency does not want to initiate the relationship or rapidly have to improve the relationship. It is far more effective to be proactive with these relationships and assess potential barriers and resources prior to needing these resources. It is encouraged to utilize the RETAC and county emergency manager to assist in coordinating events to assist in building these relationships. Due to the remoteness of the county, utilization of meeting and collaboration software is encouraged.
- Ensure all staff completes basic ICS education and PPE education. Potential incident commanders need to complete upper level ICS education. All staff, no matter their scope of practice, must have education on incident command systems. This education lays the framework and structure for all mass casualty incidents, no matter the size or type. It is important that all staff be familiar with the correct terminology, be able to identify key positions in the structure and understand "span of control" and chain of command concepts. Upper level courses assist in preparing positions of authority as incidents expand, and help educate recovery steps. Training is free. Basic training is offered on the FEMA training website. Advanced courses are offered by many educations centers throughout the state as well as the Emergency Management Institute. Most of the advanced courses are offered for free, as long as participants complete the course work. Instructions are located on the FEMA training website.
- Develop and train on identifying an MCI and the initial management actions. After understanding the fundamentals of ICS, the next challenge is to operationalize the concepts in a region, state or nation. Staff should be trained in the identifying of a MCI in their service area. Many free courses are offered at the awareness level. These courses are offered by FEMA, National Disaster Foundation and many other association and all teach to all hazards awareness.
- Complete a hazards vulnerability assessment to prioritize high probability hazards. Preparing for a MCI requires the agency to have an understanding of the probability, possibility and overall risk of the different internal and external hazards that could occur. Topics with high probability should have emphasis on planning, and testing of plans. Staff responding should be aware of high probability MCIs and be well trained in their operation plan. Hazard vulnerability tools were developed to assist departments in assessing the overall risk to all hazards. The county should perform this assessment annually. The tools can be found in a variety of locations, including the Colorado Department of Public Health and Environment disaster preparedness website, FEMA and various commissions and associations. Emergency

management will have an understanding of the various hazards and will have information to assist in predicting risk in the area. It is recommended that the ambulance service coordinate with emergency management to complete the assessment and share the results with all regional partners.

- Develop the capability to utilize the clinic in MCI situations as a treatment or patient staging area. The clinic has appropriate facilities, resources and staff to assist in the overall management of a MCI. Utilizing the clinic during these incidents is a key to getting the most out of the available EMS resources. In a typical operation, the ambulance service is transporting patients 45 to 75 minutes away and out of the district. Mutual aid EMS resources are at minimum 30 minutes or more away. During an MCI, many patient clinical care procedures will have to be performed within the county. Utilizing the clinic as such a resource could result in shorter ambulance transports, allowing EMS resources to return to service faster for continued utilization on the incident. The clinic can provide many aspects of treatment needed and assist in coordinating end destinations. Once mutual aid resources arrive, including air services, patients can be transported to their end destinations.
- Strengthen routine operations and build redundancies around priority systems. It is important in MCI goals to have an efficiently operating EMS system and an awareness of key resources and the vulnerability of dysfunction causing an internal MCI. As financials improve, it is critical to develop redundancies into resources. Examples might include utilization of temporary staff during periods of low staff periods or high volume. The redundancy should include Human Resources and Administration to assist in expenses and rapid credentialing verification within the district. Another example could include working with County Commissioners and regional resources to rent and license an ambulance for the district in a quick manner. Building redundancies does not always cause heavy burden on the district's financials. Many redundancies require good interdepartmental working relationships and cooperation to develop memorandum of understandings (MOU) for the benefit of all agencies.
- Update and complete memorandum of understandings (MOU) with surrounding regional partners and participate in updating the county wide emergency operation plan. By routinely updating MOUs and mutual aid agreements, departments are able to improve overall relationships to assist each other in management of EMS and MCI incidents within the region. These agreements assist in defining many aspects of the response, including liability, availability of resources, incident structure, financials (if applicable) and areas of response. The RETAC and county emergency manager would be good resources to assist in developing the scope of these documents. Each department is encouraged to have legal counsel review or assist in the drafting of the actual documents. Many aspects of the county's emergency operation plan should be updated during this process.
- Participate in regional coordination of implementation of an enhanced interoperability system. All agencies in the region should work towards utilizing enhanced interoperability software to support and improve the overall communication and utilization of regional resources. Monitors should be placed throughout the region to be viewed where key decision makers can view the availability of resources. The RETAC would be a primary champion of implementing this system. Custer County Ambulance should actively participate in this implementation process.

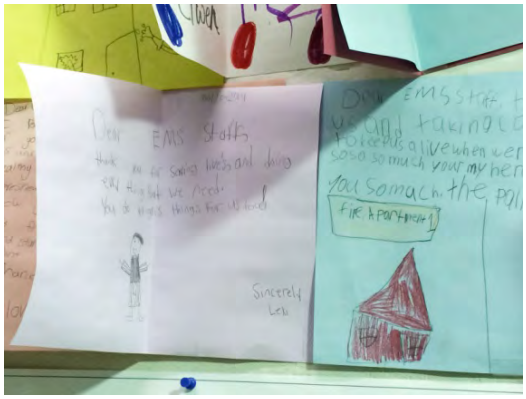
- Participate in tabletop, small, large and full scale scenarios. After updating the County Emergency Operation Plan and updating MOUs and Mutual Aid agreements, it is essential to educate, practice and review the plans of various aspects of the emergency operation plan. This can be small procedure specific exercises all the way to full scale exercises. Tabletop exercises can be useful, however live training is superior to tabletops and typically has better overall value. Regardless of the method of exercise, a review is important to determine if the plan was properly executed, effective and if any other consideration should be added to the plan. It is recommended the ambulance service participate in as many exercises as possible and lead an exercise in a large scale medical scenario.
- Develop and integrate the clinic as a full participating member of the county emergency operation plan. Train and educate the clinic leadership on HICS and develop resource capabilities to the community in MCI/disaster management situation. The clinic would need to develop an emergency operation plan in alignment with EMS and county plans. It should also include a phone call tree system to improve staffing and open the clinic at night if needed. The clinic should develop its planning under the hospital incident command system. Although the clinic is not a hospital, it has many key resources similar to those of a hospital that may be utilized in an MCI incident. There is free training available for hospital specific incident command on FEMA's website. Administration should participate in available trainings. The clinic should have a representative at all county wide meetings and planning regarding county emergency management. This representative would also function as the coordinator for the clinic's preparedness and response activities.

Integration of Health Services

System Integration Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree								
Answer Options	**1**	**2**	**3**	**4**	**5**	**Don't Know**	**Rating Average**	**Response Count**
The Hospital and EMS agencies work well together	18	7	7	4	2	5	2.08	43
EMS is well connected to the overall healthcare system	4	9	12	6	3	8	2.85	42
EMS and fire agencies work well together	4	2	9	15	8	4	3.55	42
All participants in the EMS and trauma care system understand their role	1	6	8	14	4	10	3.42	43
							answered question	**43**
							skipped question	**3**

The Custer County Medical Center and the Custer County Ambulance make up the West Custer County Hospital District. In that sense, they are tightly integrated. However, due to differences of opinion within the community as to whether the ambulance service should continue within the hospital district and direct association with the Custer County Medical Center, the controversy impacts the degree of integration. In the short term, passage of the Proposition4A ballot initiative will likely be an enhancement to the relationship between the ambulance service and the clinic. However, in the longer term, it is unclear if Custer County Ambulance will remain within the hospital district.

Medical Direction Integration



In the meantime, as outlined in the *Medical Direction Section*, the interest in participation with aspects of local EMS medical direction by Dr. Amesquita will likely bolster integration between the two entities. This scenario presents an opportunity to develop and build a training relationship with the ambulance service by motivated clinic patient care staff. Examples include lecture presentations and skills training. This circumstance also offers the ambulance service a chance to educate clinic staff with respect to the challenges associated with longer distance transports. This enhanced relationship will be of benefit for patients and should persist even in the event the ambulance service separates from the West Custer County Hospital District.

As mentioned above with respect to long distance ambulance transport, Custer County does not have a local hospital to serve as a definitive arrival destination for EMS, and as a result a significant majority of patient transports go to hospital destinations in Pueblo. This fact has some impact on health services integration; however, there is some mitigation with respect to integration because the medical director, Dr. Weber, is based in Pueblo at St. Mary Corwin Medical Center.

In discussions with community members and in review of the pre-visit survey, it appears there is reasonable integration between area fire departments and Custer County Ambulance as well as neighboring fire/EMS agencies. However, coordinated communication and quality improvement activities between agencies could be emphasized even more strongly.

Eastern Portion of Custer County

The eastern portion of Custer County is served by the county ambulance service. Some areas of this portion of the county are difficult to reach in a timely fashion from its Westcliffe base. Therefore, Custer County mutual aid agreements are important in supplementing service in these areas of Custer County. During the consultative visit, the team had the opportunity to attend a portion of a detailed meeting involving the discussion of EMS mutual aid. This meeting was arranged and facilitated by the director of the Custer County Office of Emergency Management. Also present at this meeting were representatives of Wet Mountain Fire District, Rye Fire District, Fremont County Fire/EMS and the Office of Emergency Management, Beulah Fire District, Wetmore Fire District, Custer County Search and Rescue, Custer County Dispatch, Colorado State Patrol Dispatch, Custer County Sheriff's Office and Pueblo County Sheriff's Office.

This meeting reviewed many issues surrounding mutual aid agreements and appeared to be an excellent starting point for future discussions to enhance EMS mutual aid for areas in, and nearby, eastern Custer County.

Recommendations

- Develop training opportunities for EMS by interested Custer County Medical Center patient care staff. As a beginning, such training could include lecture presentations as well as working together on skills training. These educational meetings also offer a significant opportunity to

enhance the relationship between the ambulance service and clinic providers, improving integration. This positive effect should persist even if the ambulance service separates from the West Custer County Hospital District.

- Continue to work with EMS partners outside of Custer County to bolster mutual aid agreements in areas difficult to reach by Custer County Ambulance. Regular meetings with partners will identify problems within the mutual aid agreements, improve communication and facilitate prompt resolution.
- Consider future placement of a Custer County Ambulance base in the eastern edge of the county to facilitate response in those areas.

Evaluation

Evaluation Please rate the following on a scale of 1 - 5. 5 = Strongly Agree 1 = Strongly Disagree

Answer Options	1	2	3	4	5	Don't Know	Rating Average	Response Count
Custer County Ambulance has a defined and ongoing quality improvement program	2	5	6	3	4	22	3.10	42
Quality improvement findings are integrated into the EMS and clinic care system	4	2	6	4	2	24	2.89	42
Quality improvement activities are coordinated and communicated between services	4	9	4	1	1	23	2.26	42
							answered question	42
							skipped question	4

According to 2013 data supplied to the consultative team by Custer County Ambulance, 330 requests for service were received and it appears that approximately 240 patients were transported by Custer County Ambulance staff. About 80 percent of scene responses involved some utilization of lights and sirens (Code 3). However, to the credit of Custer County Ambulance crews, only 5 percent of patient transports to hospital destinations utilized lights and siren at any time. Given that there is a higher risk of emergency vehicle crashes in association with lights and siren use, a mechanism to safely reduce such operations can be beneficial. In the future, working with the Custer County Sheriff's Office Communications Center, EMS medical direction and the ambulance service members, it may be prudent to identify some additional 9-1-1 requests for service that can be safely responded to without lights and sirens (Code 2).

Quality Improvement

During the consultative visit, the review team was told that quality improvement currently involved routine chart review by the ambulance service manager. All lights and siren returns (Code 3) and refusal calls are referred to Dr. Weber for review. His insight and direction on these cases are sent back to the manager who will then review it with the crew.

There appears to be options available for enhancements to the quality improvement process. An initial approach would be to develop a more specific process to review all patient care reports, given the relatively small number of transports by a group of selected crew members so that no one is analyzing their own call. If time is limited, at least a random review of 50 percent of the patient care reports

could be done as an alternative. These patient care reports could be analyzed using a standard quality improvement template form assessing the presence or absence of items the agency and medical director have determined are important to track.

Additionally, certain higher acuity cases may be routinely reviewed as audit filters. Some examples might include bag-valve-mask ventilation, advanced airway intervention, cardiac arrest, chest pain, respiratory distress, abdominal pain and multi-system trauma, as well as refusals and Code 3 returns already analyzed. Other audit filters may be employed as needed at the discretion of the agency and medical director.

Criteria should be established outlining which cases are referred to the medical director. If not already in place, a written or electronic method of loop closure between the ambulance service member, agency reviewer and the medical director, if involved, should be employed.

Tracking general trends in areas of clinical interest can be instructive for providers, as well as the agency and the medical director. Utilizing benchmark standards for certain interventions can be useful to establish a means of comparison.

As mentioned in the *Integration Section*, there is a suggestion that coordinated quality improvement activities between Custer County Ambulance and other neighboring agencies could be better emphasized. At some point in the future consideration might be given to joint quality improvement meetings utilizing de-identified data that include applicable agencies.

This is also a good opportunity to review and implement the provisions of Senate Bill 14-162 which describes requirements for protected EMS quality management activities. The bill provides a certain level of legal protection for the crew in the event of a civil action. Within the bill are nine guidelines that the agency should use in creating its quality improvement program.

Recommendations

- Continue to develop the existing quality improvement program. Fifty to 100 percent of patient care reports should be reviewed utilizing a process in which providers do not analyze their own patient care reports. Consider the use of higher acuity cases as on-going audit filters. Agreed criteria should be developed for referral to the medical director with a written or electronic method for loop closure. General tracking trends identified in the quality improvement program may be identified along with the use of benchmark standards for comparison.
- Review and implement the provisions of Senate Bill 14-162 that passed in the 2014 Colorado legislative session. This statute describes requirements for protected EMS quality management activities.
- Consider future institution of joint quality improvement meetings to include neighboring agencies. De-identified trends could be presented in such a venue to enhance learning and performance for all related EMS providers.

- Work with the Custer County Sheriff's Communication Center, EMS medical direction and the ambulance service members to see if it is possible to identify additional 9-1-1 requests for service that can be safely responded to without lights and sirens (Code 2). Typically these requests for service are lower in acuity not needing an emergent (Code 3) response.

Overall Effectiveness

In your opinion, how effective is the overall local EMS and hospital system in meeting the needs of the community (1 means does not meet community needs at all and 10 means meets all community needs completely)?

Answer Options	1	2	3	4	5	6	7	8	9	10	Rating Average	Response Count
Rating	2	3	4	7	9	3	4	8	1	0	5.17	41
											answered question	41
											skipped question	5

The Custer County stakeholders who completed the pre-visit survey rated the overall effectiveness of the system as average (5.17 out of 10). Being an isolated rural community provides various challenges to an EMS system. The ambulance service members as well as the various other emergency service and community members demonstrated to the team great passion and dedication to the EMS system. Given the recent passing of Proposition 4A, the system now has the ability to adequately fund EMS, alleviating the pressing concern of financial stability of the ambulance service. Providing a mill levy subsidy in addition to user fees, the ambulance service is now financially capable of providing full-time EMS service. Going forward, building off of the community dedication and now financial support, growing the ambulance service into a sustainable community asset will aid in meeting the community's long-term needs.

EMS Delivery Models

These are theoretical models. Concepts may or may not be actualized as stated, and may contain variants not mentioned, but some variant could enhance the healthcare in the county depending upon the needs and structure of the model. Each model needs to be evaluated thoroughly by all county stakeholders to determine the best fit for Custer County.

Current EMS Delivery Model

The current delivery model for Custer County Ambulance within the hospital district appears to be the most appropriate placement of the ambulance for EMS system integration and structure, at this time. Within the hospital district, the ambulance service has access to a human resources department, logistical supply process, established chain of command and a newly funded financial structure with the passing of Proposition 4A. It was mentioned to the consultative visit team that the hospital district is looking elsewhere to place the ambulance service. However, the team did not hear consensus as to which entity in the county should assume responsibility for the ambulance service. With tax funding available starting March 2015, a clearer path may emerge, creating more willingness from various potential EMS oversight agencies or organizations within the county to maintain, or take over, the ambulance services.

In order for the current hospital district oversight model to be effective, restructuring the ambulance service is a must. First and foremost, financial segregation from the clinic needs to happen. Clear financial lines between the clinic and ambulance service should be developed so that financial reliability and integrity exists. The community was quite clear during discussions with the team that they want operational and financial separation to ensure EMS funding goes to the ambulance service. In addition, the hospital district/district administrator and the ambulance service director should work side-by-side as equals who both report to the hospital district board for direction and oversight as respected departments. Creating operational and financial separation between the clinic and the ambulance allows transparency and integrity within the district while allowing the departments to work together for the common good of the community.

Alternate EMS Model Structures in Custer County

The changing healthcare dynamic has caused many leaders in EMS to challenge their thinking on current system models. Small towns like Westcliffe and Silver Cliff are changing with an outflow of young population but still have service needs for populations that are reaching retirement age and beyond. Custer County is the perfect community for innovative ideas and concepts that, if proven, could mean reshaping the future of healthcare in rural communities across the United States. Below are examples of different EMS models for Custer County Ambulance. Each model presents varied positives and challenges that are to be discussed in depth with county stakeholders in order to determine what is best for the county's EMS and healthcare needs.

County Run Ambulance EMS Model

If the county were to choose to take over the ambulance service the following aspects should be considered:

Pros

Custer County Ambulance could be financially successful in a county owned and operated model. This model would be relatively cost neutral compared to the current healthcare district model. The county would already have the majority of sources which allocate indirect costs and administration overhead. This would include accounts payable and accounting, human resources, IT support, administration, legal counsel, employee benefits and insurance coverage. The current model provides these aspects by the healthcare district. The recent mill level would provide enough funds to pay most direct costs associated with the department. The indirect costs would be shared by the various county departments causing a small amount of extra cost to the EMS department.

Cons

The ambulance service was owned and operated by the county prior to the creation of the hospital district. At the time the hospital district was started, the county completely disassociated itself from the EMS department. During the interview with the Board of County Commissioners, the assessment team was informed that the commissioners did not desire to manage the EMS system and felt the hospital district had obligation to do such. The commissioners interviewed noted under Colorado statutes the EMS service was ultimately their responsibility should the current model go under. However, there was no intention or desire mentioned by the commissioners to manage the service unless it was to go under. The board felt that the ambulance service should be run by the hospital district since that's how the hospital district service agreement was originally drafted.

Fiscal Impact

The fiscal impact of transferring to this model could be low to neutral. Given that administrative staff (including human resources) is already in place and the low EMS service volume, additional administrative costs should be minimal depending upon how costs are allocated based on the use or county cost.

Ambulance Special District EMS Model

If the service were to attempt to become its own ambulance special district the following aspects should be considered:

Aspect#1

Pro aspects

An ambulance special district would separate the ambulance service from the current hospital district, its administration and board of directors. The ambulance service would have its own operating budget,

governed by its own board of directors. Currently there is a lack of trust and communication between the citizens, the ambulance service and the current hospital district's administration and board of directors. The new district could build a program free of any clinic administration oversight.

Neutral Aspects

Due to the language in the recent vote of the increase in mill levy to support EMS functions, the ambulance service will receive 3.5 mills regardless of the model and have subsidy from the local tax payers.

The relationship with an ambulance service manager and an ambulance special district Board of Directors is not guaranteed to be better or more effective. Board of directors and the ambulance service management could be appointed or hired into positions and dysfunction of relationships and communication may still occur. Separation from the current board of directors and administration of the district only guarantees resolution to the current poor relationships with the hospital district administration.

Con Aspects

If the service is voted into its own special district, indirect costs associated with the management of the service will rise. Administration, human resources, benefits, workman's compensation insurance, legal counsel, payroll and other business functions would be the sole responsibility of the ambulance district to provide and may increase the overall operation cost. These costs are currently being supported by the hospital district through clinic operations. The current mill levy appropriated to the ambulance service ($47,000) may not be enough to cover these overhead expenses. Management estimates the EMS share of current overhead is $50,000 – this may be insufficient if the EMS is separated completely from the clinic operations. This may lead the financials to remain problematic and the new mill levy approved by the taxpayers having a reduced positive result as with the current EMS model.

Aspect#2

Pro

There is a sentence in the current hospital district service agreement requiring the clinic to provide emergency services 24 hours a day. How this obligation is met is a significant point of contention between the hospital district board of directors and the taxpayers. The requirement is currently met through the provision of EMS services. If the EMS service separated from the clinic and became an ambulance special district, the remaining hospital district could have difficulty in complying with this requirement without amending the service agreement.

Neutral

I If the hospital district were able to amend the requirement for emergency services, the proposed ambulance district would list this in its service line agreement with the taxpayers, and there would be no loss or improvement in the current emergency services to the community.

Cons

Separating EMS from the hospital district through the creation of a special ambulance district may result in the loss of an important resource for the clinic. The clinic currently has the ability to utilize the EMS providers' assistance in patient care. If the current district focused on improving the working relationships, both the clinic and ambulance service could utilize each other as resources in emergency response and the care of patients. (This is not meant to imply that the clinic will have a 24 hour emergency department; it is meant to acknowledge the many benefits in EMS providers and clinic staff being able to work collaboratively to provide seamless patient care.)

Many of the current roadblocks may improve with the new funding source that Proposition 4A provides; however, funding cannot substitute for the necessity of improving the relationships between the ambulance service and hospital district administration. Many of these potential benefits to the community will be more difficult to achieve if the ambulance service is based outside the hospital district limiting the incentives to integrate and work together.

Fiscal Impact

There will be fiscal costs incurred if the community chooses to set up a new special district. Legal fees and the cost of another vote should be considered. In addition, the new district would have to develop a new structure or contract out for a human resources department. Due to the complexities of creating and managing a special district, hiring a qualified district manager who would double as the EMS chief would create additional expenses.

Fire-Based EMS Model

If the service were to attempt to align with the Wet Mountain Fire Protection District, the following aspects should be considered:

Much of the stakeholder and community dialog about the ambulance service in Custer County has focused on solutions based in relocation—or a "new home"—for the ambulance service. Although the best location is disputed, clear among all stakeholders is continual friction with clinic management which makes remaining under the leadership and direction of the hospital district unattractive, even with the increased tax funding.

In the United States, many types of EMS deployment models are used. Most common are: private/for profit, fire-based, and city or county government "third-service." Various hybrids also exist, some very successfully. Communities select their EMS model based on numerous factors, including: call volume and payer mix, available funding, history and tradition, geography and even competing interest. The fire service-based model has been demonstrably popular in many communities largely due to some combination of the above factors.

Deployment model

The basic premise of fire service-based EMS as delivery model stems from the concept that EMS resides at the intersection of public safety, public health and medical care. The fire service may be uniquely

qualified to be at that intersection due to its current mission, placement and capabilities. However, most fire-based models involve a somewhat different structure and call volume than in Custer County, and the fire services with successful ambulance transport components found a way to embrace multiple missions simultaneously.

Wet Mountain Fire Protection District is a relatively small agency with a large geographical service area (32 members, 580 square miles). The agency responds to approximately 130 annual calls for service using entirely volunteer personnel with the exception of a partially paid fire chief. Successful consolidation of fire and EMS could be accomplished in several formats; however, the common efficiency model uses fully-integrated, cross-trained personnel. Firefighter EMT/Paramedics serve in multiple capacities to significantly reduce personnel costs. In high EMS call volume environments, medical units are often too busy to serve in multiple roles, but EMTs and Paramedics may rotate to fire apparatus to improve training, experience and retention, while the agency enjoys the overtime staffing exemptions specific to firefighters.

Structure Options

Although a true fire service-based program includes fully integrated, fully crossed trained personnel, the following models may be appropriate for Custer County:

1. Fire Agency Administration/Freestanding Ambulance Corps: Hospital district transfers all ambulance assets, including building to Wet Mountain FPD. All tax revenues designated to EMS are transferred through intergovernmental agreement to the fire protection district. The fire department provides fiscal and overall managerial oversight, including personnel, pensions, insurance, maintenance, etc. A paid EMS officer position manages all day-to-day operations. All ambulance operations run from the current location (ambulance barn). Volunteer firefighters respond to designated EMS call types, and may be paid stipends to function as ambulance drivers. Opportunities for progressive integration of fire and EMS are continually explored.

Pros

- Only partial integration into fire-based, separates paid and volunteer into separate stations.
- Increases staff recruitment opportunities since fire certifications are not required.
- Allows current and future firefighters to integrate into EMS as both fire-responders, as well as drivers and eventually EMTs or Paramedics, if desired.

2. Partial integration: Hospital district transfers all ambulance assets to WMFPD. All tax revenues designated to EMS are transferred through intergovernmental agreement to WMFPD. The EMS division of the fire department operates with a combination of paid and volunteer personnel, and EMS personnel may or may not be certified firefighters and EMS operations may run from either location.

Pros

- This blend of personnel allows more flexibility in hiring in a community that may be

challenged to recruit and retain a fully cross-trained staff.

- The EMS/fire integration can then remain somewhat fluid to meet current organizational needs and staffing availability.
- Allows ambulance service members to expand into firefighting without making fire certifications a job requirement.

3. Full integration: Hospital district transfers all ambulance assets to Wet Mountain FPD. All tax revenues designated to EMS are transferred through intergovernmental agreement to the district. Fully cross-trained personnel are hired (or trained from within) to function as paid firefighter EMTs/Paramedics with full benefits. Operations run from the main fire district station, with firefighter EMT/Paramedics responding with the appropriate apparatus or vehicle given the call nature. Paid staff may be supported by volunteer first response for most call types.

Pros

- Strengthens both fire and EMS by adding paid (career) positions with fully cross-trained personnel.
- Strengthens overall EMS system by adding firefighter first response to more calls.
- Opportunities for training and career positions become available via volunteer entry into the agency.
- Limits the often contentious "EMS verses fire" environment as all members are trained in both disciplines.
- Federal wage and labor law (FLSA 207k) exemption allows firefighters to work longer hours without mandatory overtime pay.

Successful integration of fire services and EMS can be challenging in the best environments. Personnel from each discipline often feel the combining of services is unnatural and sometime threatening. Merging paid and volunteer can also be contentious. Fully committed leadership at all levels is necessary to successfully manage such a consolidation. Chiefs, directors, managers and board members must work carefully through all details while communicating openly and frequently with all personnel.

Fiscal Impact

The district would have to develop internally or contract out for human resources assistance. Balancing full time employees with volunteer service members may be a challenge. Legal or accounting costs may occur for proper transferring of the ambulance service from the hospital district to the fire district. Additional costs may incur depending upon cross training service members from fire to EMS and EMS to fire.

Summary of Recommendations

Custer County Medical Center Recommendations

Short-term (1 to 2 years)

- Maintain a strong, transparent communications plan to build public trust and awareness and communicate changes to the clinic such as in services, hours and available providers.
- Evaluate establishing a "fund" system of accounting for EMS and rural health clinic finances to create defined financial lines between the ambulance service and the clinic. Each department, ambulance service and the clinic should have its own financial and operational structure to create financial and operational transparency and integrity. By separating the two departments, community trust and confidence in the hospital district may increase.
- Evaluate standardization and documentation of processes that can assist when staff turnover occurs.
- Work with clinic medical and administrative staff, the EMS medical director and EMS leaders to develop clinical patient criteria likely to benefit from clinic transport, during clinic hours.
- Develop training opportunities for the ambulance service by interested Custer County Medical Center patient care staff. As a beginning, such training could include lecture presentations as well as working together on skills training. These educational meetings also offer a significant opportunity to enhance the relationship between the ambulance service and clinic providers, improving integration. This positive effect should persist even if the ambulance service separates from the West Custer County Hospital District.
- Utilize available training and resources. For example, the Colorado Rural Health Center offers Healthy Clinic Assessments that evaluate basic clinic operations and efficiencies. Other training includes periodic board training offerings and billing and coding trainings.
- Strengthen the hospital district's organization structure and improve intra-district relationships. Relationships are the beginning of any quality service. The ambulance operation should be in alignment with the hospital district and the ambulance service manager, district administrator and the board of directors should work to establish quality professional relationships. The organization structure should be established and the chain of command followed for the continuity of the district's mission.
- Implement rotations for the EMTs, Intermediates and Paramedics to do shifts in the clinic to gain experience in vital competencies, such as adult/pediatric assessments and venous access.
- Develop the capability to utilize the clinic in MCI situations as a treatment or patient staging area. The clinic has appropriate facilities, resources and staff to assist in the overall management of a MCI. Utilizing the clinic during these incidents is a key to getting the most

out of the available EMS resources. In a typical operation, the ambulance service is transporting patients 45 to 75 minutes away and out of the district. Mutual aid EMS resources are at minimum 30 minutes or more away. During an MCI, many patient clinical care procedures will have to be performed within the county. Utilizing the clinic as such a resource could result in shorter ambulance transports, allowing EMS resources to return to service faster for continued utilization on the incident. The clinic can provide many aspects of treatment needed and assist in coordinating end destinations. Once mutual aid resources arrive, including air services, patients can be transported to their end destinations.

Medium-term (3 to 5 years)

- Develop and integrate the clinic as a full participating member of the county emergency operation plan. Train and educate the clinic leadership on HICS and develop resource capabilities to the community in MCI/disaster management situation. The clinic would need to develop an emergency operation plan in alignment with EMS and county plans. It should also include a phone call tree system to improve staffing and open the clinic at night if needed. The clinic should develop its planning under the hospital incident command system. Although the clinic is not a hospital, it has many key resources similar to those of a hospital that may be utilized in an MCI incident. There is free training available for hospital specific incident command on FEMA's website. Administration should participate in available trainings. The clinic should have a representative at all county wide meetings and planning regarding county emergency management. This representative would also function as the coordinator for the clinic's preparedness and response activities.

Custer County Ambulance Recommendations

Short- term (1 to 2 years)

- Evaluate the effectiveness of the ambulance billing service to find gaps in uncollected user fees. National EMS billing reimbursement rates are in the 40 percent range, whereas Custer County ambulance reimbursement rates are in the mid 30 percent range. Consider exploring bids from other EMS billing services as a means of comparison. Increasing the ambulance collection rates may result in an increase of revenue.
- Work to strengthen the relationship between Dr. Weber, Dr. Amesquita and Custer County Ambulance. Overall, medical direction is an asset. The team believes that the combination of local physician input working along with the medical director will enhance the Custer County EMS and clinic providers' level of care resulting in benefits to the patients served.
- Continue monthly in-house trainings. Coordinate the topics to ensure continuing education needs are met. Enhance already on-going joint trainings with Wet Mountain Fire Department staff. Consider inviting Custer County Search and Rescue staff to trainings, as appropriate.

- Explore opportunities to add ALS qualified staff to Custer County Ambulance. Since the ballot initiative to increase EMS funding has passed, there should be funds available to attract one paid ALS provider per shift to the area.

- Continue to develop the existing quality improvement program. Fifty to 100 percent of patient care reports should be reviewed utilizing a process in which providers do not analyze their own patient care reports. Consider the use of higher acuity cases as on-going audit filters. Agreed criteria should be developed for referral to the medical director with a written or electronic method for loop closure. General tracking trends identified in the quality improvement program may be identified along with the use of benchmark standards for comparison.

- Learn the functionality of the ImageTrend software and its uses. By utilizing this functionality, the service will be able to make chart review with medical direction much more efficient. As soon as a patient care report is entered, the medical director could have access to the chart for review. Medical direction should have access to this system and complete the necessary training to utilize the quality assurance function within the ePCR system.

- Recruit an ambulance service manager with education, knowledge and experience in EMS operation management. This manger needs to have comprehensive understanding of all aspects of the operation including financials. The ambulance service manager should have strong leadership qualities and effective communication and conflict resolution abilities. The 3 mill levy will in fact assist EMS in longevity of service. However, the ambulance service needs to maximize all potential financial revenue with responsible spending to achieve its future goals. Financial revenue should come from maximizing patient care revenue, and application of grants. The ambulance service manager needs to have a working knowledge of how to successfully maximize both of these revenue options.

- Establish EMS policy and procedures. Custer County Ambulance currently does not have an approved policy and procedure manual. The department needs to establish guidelines outlining how an employee performs job duties. These guidelines will assist in regulatory compliance, effective financials, safety and hazard mitigation, develop structure and organization, provide a better cohesiveness between public safety partners, and provide a measureable standard that employees are held to. Manuals should be reviewed from multiple perspectives utilizing the SMART or equivalent pneumonic. Each policy and procedure should be specific, measurable, achievable, realistic and have a time component addressed in the document. Each policy should be reviewed by hospital leadership, ambulance service manager and medical direction to be certain that the policy is in compliance with all regulatory oversight.

- Provide an annual safety education program within human resources annual education. The ambulance service manager should work with the district's HIPAA security and privacy officers to establish HIPAA training for EMS providers. They should also work with the facility manager to establish fire, electrical, chemical and safe work environment education. Emergency vehicle operation training (EVOC, CEVO, VFIS) should be implemented as a requirement for new member orientation and annually refreshed for all members. The manager should seek

out information from the district's human resources officer to establish training guidelines necessary to meet labor law compliance, including workplace violence, harassment, conflict resolution, cultural diversity and infection control/bloodborne pathogen class as requirement for new member orientation. Other topics that could be incorporated into employee education may be safe lifting, wellness, fatigue awareness and acute and chronic traumatic stress awareness. Information on these topics may be found with local public and healthcare partners or found online for a low cost through distributive learning models. Competency assessment should be performed to assure the employees understand each aspect to promote compliant, healthy, and safe working environments.

- Consider an alternative shift schedule. The ambulance service has had some difficulty covering day shifts as well as maintaining night coverage. It is recommended that the service consider utilizing an alternate staffing plan. This alternative could utilize the 48 hour on/96 hour off schedule or 24 hour on /48 off schedule. This adds an increase in annual pay for the service members as well as rotates days of the week on-duty. Both schedules allow for appropriate down time after being on duty for extended hours. They each require three ALS and three BLS full time equivalents to meet a seven day a week, 24 hour per day coverage. It is recommended that 2nd call remain a paid-for-call model due to the low call volume of the system.

Medium-term (3 to 5 years)

- Evaluate all EMS service delivery models by comparing the financial, service delivery and community needs with what the current hospital district can provide. Determine, based upon financial, service delivery and community needs, the best EMS delivery model. Choose whether to remain within the hospital district, merge with the fire department, change to county government oversight or create a separate ambulance district (Title 32 Special District), if warranted, to become self-supporting with fees for service subsidized by the mills collected.

- Consider future placement of a Custer County Ambulance base in the eastern edge of the county to facilitate response in those areas.

- Develop an annual review of policy and procedure. After completing the development of the policy and procedure manual the department should develop an annual review process. Each policy should be looked at individually and reviewed. EMS is rapidly evolving and many changes are occurring throughout the industry's various aspects. It is important that the policy and procedure reflect the current expectations in the district and industry. The ambulance service manager will need to position him or herself to receive communications regarding critical information and updates by placing him or herself on the email lists of EMS associations, CDPHE and other regulatory authorities. Many education opportunities arise throughout the state in which the manager and medical director should be strongly encouraged to participate.

- Develop a performance based review field training program. This process should have oversight from medical direction for all clinical applications. Both BLS and ALS scopes of practice should have a field training process to establish understanding of the operation as a new hire. The performance standards should be assessed either through incident performance, skills or competency lab, or a didactic examination. Some sample topics include, protocol knowledge and competency, safety procedures, policy and procedure and an overall scope specific competency. It is recommended that the field training process be extended in length and individualized. The new hire should remain in this field training program until accurate documented performance is assured prior to working independently.

- Establish a training position within the organization to help manage the program and maintain records. Encourage ALS and strong BLS personnel to be instructors in order to maximize the number of available personnel to conduct training.

- Develop an annual performance review process. After the new hire is cleared from the field training program and is working independently, Custer County Ambulance should develop an annual review process. This process should include clear communication and documentation of the employee's performance and the employer's expectations. This process also establishes communication regarding the employee's goals within the department and assists the manager in utilizing the talents within the department. To assist in the development of employees' clinical knowledge and skills and improve future quality improvement aspects, it is recommended that Custer County Ambulance develop a well-rounded internal education program. This program should have a broad range of topics and emphasize high risk/low frequency, safety, and complex skills. By improving the overall competency the department will assist staff in feeling more confident in their ability to perform EMS functions at a high level.

- Develop a well-rounded continuing education program "state recognized training group." To assist in the overall cost of the delivery of the education topics and assist staff in maintaining their certifications, it is recommended that Custer County Ambulance work to attain Colorado education group status. By achieving this status the department could host and certify the continuing education being delivered within the education program. This would add a great benefit to employees as well as be a possible recruitment tool with other prehospital trained staff within the community utilizing this resource.

Long-term (5 years)

- Develop competitive salaries to attract EMS providers into the system. By performing the above recommendations Custer County Ambulance will set itself up for a sustainable workforce to carry on its general EMS operations. Although employees cite that "poor wages" are one of their biggest concerns, there are many other human resources functions that have opportunities for improvement which will help retain staff. Financial position and

excellence in employee performance will drive increasing wages to a competitive status. Once achieved, the competitive wages become a utility in recruitment and retention efforts. Even with the mill levy, it will take the ambulance service manager and district administration time to grow the appropriate funds to adjust wages substantially.

- Develop opportunities to increase employees' scope of practice. It is recommended that the department look for new and innovative functions of EMS to assist in the district's overall mission and goals and improve financial revenue capture. This could include mobile integrated healthcare or community paramedic functions, clinic utilization of ambulance service members, internal billing and coding, EMS patient navigators or EMS/public health educators. The ambulance service should maintain an adequate understanding of each discipline and current media regarding these topics. Utilizing the board of directors and district administration, the district should discuss each of these topics and potential positive impact on the overall mission. Grant funding may be necessary to provide the initial financials to achieve any one of the disciplines. Long term planning in strategic format under the district's plan would need to be utilized to assist in some of these future programs.

- Seek out distance learning opportunities. The ambulance service should develop a plan to assist current staff in increasing their scope of practice. EMT's should have the opportunity to achieve Intermediate or Paramedic certification. Being rural and remote, distance learning education opportunities would be best utilized to achieve this. Education centers across the country are working to help move post-primary education opportunities to nontraditional methods of instructions to assist rural communities. The ambulance service should communicate its need with EMS education centers to assist in delivering a distant learning scope enhancement model. Some of these models have been attempted successfully in the state already. Available funding opportunities should also be utilized. For example, funding is available through the state Colorado Resource for EMS and Trauma Education (CREATE) grant program managed by the Colorado Rural Health Center to fund training for emergency medical and trauma staff.

EMS and Trauma System-Wide Recommendations

Short- term (1 to 2 years)

- Continue to work with EMS partners outside of Custer County to bolster mutual aid agreements in areas difficult to reach by Custer County Ambulance. Regular meetings with partners will identify problems within the mutual aid agreements, communication and facilitate prompt resolution.

- Review and implement the provisions of Senate Bill 14-162 which passed in the 2014 Colorado legislative session. This statute describes requirements for protected EMS quality management activities.

- Work with The Custer County Sheriff's Communication Center, EMS medical direction and

the ambulance service members to see if it is possible to identify additional 9-1-1 requests for service that can be safely responded to without lights and sirens (Code 2). Typically these requests for service are lower in acuity not needing an emergent (Code 3) response.

- Improve the understanding and functionality of ImageTrend software and its uses. By improving this understanding, the service will be able to make chart review with medical direction much more efficient. As soon as a patient care report is entered, the medical director could have access to the chart for review. Medical direction should have access to this system and complete the necessary training to utilize the quality assurance function within the ePCR system.

- Coordinate with the third party billing company to develop an information system to maximize effort to improve patient care revenue. Maximizing patient care revenue and billing in a compliant manner is necessary to optimize revenue financials and improve the overall program. The system(s) in place should allow for quick transfer of information to the third party billing service. The third party billing service should have easily accessible feedback through an information system. This could be performed through the third party company's interface or through utilizing a file sharing software. There are many file sharing software options, and most are free and secured to share large files or many files at once. With the ability to maximize efficiency in obtaining the third party billing company's feedback, key improvements in efficiency of billing practices could be performed.

- Strengthen routine operation and identify priority systems. The first action towards MCI management is having a solid well-functioning standard operation. When improvements are made to the standard operation there are positive effects that also improve MCI management. It is important that the ambulance service management and district administration identify key internal resources and their probability of dysfunction. Most resources will be the "basics" of the operation including: financials, staffing, fleet, equipment and communication programs. Awareness of the causes and effects of dysfunction on each resource allows the key positions to adequately plan to build redundancy into those systems. If dated financial and operational records can be found, these records can assist in understanding current weaknesses in the resources.

- Continue to build relationships with public and healthcare service partners. The next step to management of mass casualty incidents is to have strong relationships with the departments that will be co-responding or sharing resources during the incident. The incident will inherently include many unplanned events, and various reactive management strategies may be utilized. During these times the agency does not want to initiate the relationship or rapidly have to improve the relationship. It is far more effective to be proactive with these relationships and assess potential barriers and resources prior to needing these resources. It is encouraged to utilize the RETAC and county emergency manager to assist in coordinating events to assist in building these relationships. Due to the remoteness of the county, utilization of meeting and collaboration software is encouraged.

- Ensure all staff completes basic ICS education and PPE education. Potential incident

commanders need to complete upper level ICS education. All staff, no matter their scope of practice, must have education on incident command systems. This education lays the framework and structure for all mass casualty incidents, no matter the size or type. It is important that all staff be familiar with the correct terminology, be able to identify key positions in the structure and understand "span of control" and chain of command concepts. Upper level courses assist in preparing positions of authority as incidents expand, and help educate recovery steps. Training is free. Basic training is offered on the FEMA training website. Advanced courses are offered by many educations centers throughout the state as well as the Emergency Management Institute. Most of the advanced courses are offered for free, as long as participants complete the course work. Instructions are located on the FEMA training website.

- Develop and train on identifying an MCI and the initial management actions. After understanding the fundamentals of ICS, the next challenge is to operationalize the concepts in a region, state or nation. Staff should be trained in the identifying of a MCI in their service area. Many free courses are offered at the awareness level. These courses are offered by FEMA, National Disaster Foundation and many other association and all teach to all hazards awareness.

- Update and complete memorandums of understanding (MOU) with surrounding regional partners and participate in updating the county wide emergency operation plan. By routinely updating MOUs and mutual aid agreements, departments are able to improve overall relationships to assist each other in management of EMS and MCI incidents within the region. These agreements assist in defining many aspects of the response, including liability, availability of resources, incident structure, financials (if applicable) and areas of response. The RETAC and county emergency manager would be good resources to assist in developing the scope of these documents. Each department is encouraged to have legal counsel review or assist in the drafting of the actual documents. Many aspects of the county's emergency operation plan should be updated during this process.

Medium-term (3 to 5 years)

- Look at upgrading the dispatching process to a computer aided dispatching (CAD) terminal from a pen and paper system. Utilizing a CAD for dispatching will allow for easier tracking and control of emergency situations and limit loss of information that transpires when using a pen and paper system. In addition, requests for service through dispatch could be expedited and future implementation of emergency medical dispatching would be possible.

- Explore improving and updating the emergency medical dispatching (EMD) process including adding a medical director for EMD oversight. EMD is a valuable tool, especially in rural areas, because it allows for the provision of some emergency care by bystanders prior to the arrival of EMS response resources.

- Explore using phase two wireless processes to assist in locating 9-1-1 callers who cannot provide a location or address.
- Consider future institution of joint quality improvement meetings to include neighboring agencies. De-identified trends could be presented in such a venue to enhance learning and performance for all related EMS providers.
- Utilize enhanced meeting, communication and collaboration software and file sharing software with medical direction, dispatch and other regional healthcare partners. Due to the remote location of Custer County Ambulance, there is an added challenge to be a full participant in all regional meetings, planning and reviews. It is recommended that the service utilize meeting collaboration software products. These products are mostly free or low cost unless there are many participants involved. It may be beneficial to purchase a regional license and distribute the cost across multiple departments for collaboration and sharing. Typically, cost can be less than $500 annually for multiusers. These types of software will enable Custer County Ambulance and other partners to participate in meetings, planning and review and keep participants in the district for coverage of 9-1-1. It will also decrease travel cost.
- Complete a hazards vulnerability assessment to prioritize high probability hazards. Preparing for a MCI requires the agency to have an understanding of the probability, possibility and overall risk of the different internal and external hazards that could occur. Topics with high probability should have emphasis on planning, and testing of plans. Staff responding should be aware of high probability MCIs and be well trained in their operation plan. Hazard vulnerability tools were developed to assist departments in assessing the overall risk to all hazards. The county should perform this assessment annually. The tools can be found in a variety of locations, including the Colorado Department of Public Health and Environment disaster preparedness website, FEMA and various commissions and associations. Emergency management will have an understanding of the various hazards and will have information to assist in predicting risk in the area. It is recommended that the ambulance service coordinate with emergency management to complete the assessment and share the results with all regional partners.
- Strengthen routine operations and build redundancies around priority systems. It is important in MCI goals to have an efficiently operating EMS system and an awareness of key resources and the vulnerability of dysfunction causing an internal MCI. As financials improve, it is critical to develop redundancies into resources. Examples might include utilization of temporary staff during periods of low staff periods or high volume. The redundancy should include Human Resources and Administration to assist in expenses and rapid credentialing verification within the district. Another example could include working with County Commissioners and regional resources to rent and license an ambulance for the district in a quick manner. Building redundancies does not always cause heavy burden on the district's financials. Many redundancies require good interdepartmental working relationships and cooperation to develop MOU's for the benefit of all agencies.

- Participate in tabletop, small, large and full scale scenarios. After updating the County Emergency Operation Plan and updating MOUs and Mutual Aid Agreements, it is essential to educate, practice and review the plans of various aspects of the emergency operation plan. This can be small procedure specific exercises all the way to full scale exercises. Table top exercises can be useful, however, live training is superior to table tops and typically has better overall value. Regardless of the method of exercise, a review is important to determine if the plan was properly executed, effective and if any other consideration should be added to the plan. It is recommended the ambulance service participate in as many exercises as possible and lead an exercise in a large scale medical scenario.

Long-term (5 years)

- Implement a secondary resource deployment system with mapping function. Many of these products are being developed and improved to assist EMS services primarily in rural systems with volunteer models. Information in these systems is shared by the Internet, which is common in workplaces as well as residential settings. Most utilize cell phones or computers and can been tied directly to the CAD system in dispatch centers. At time of dispatch of an incident, information is pushed through CAD and distributed to all cell phones, tablets and computers listed with a direct link to mapping software. If devices are GPS enabled, they can rapidly route current location to the incident location. These systems would add a redundancy into the 800 MHz dispatch program as well add efficiency to response times.
- Utilize enhanced communication and collaboration software and file hosting systems for EMS education programs. Improvement in communications with interoperability systems would add efficiency and effectiveness in patient care. This could be beneficial for routine operations as well as assist in MCI disasters in region wide resource utilization. Custer County Ambulance utilizes air services and mutual aid partners to assist in county EMS response and care. They also transport to various hospitals in three different communities. At time of dispatch of incident the EMS providers do not have an understanding of the resources currently available within the system. Utilizing enhanced interoperability software could help this sharing of information. There are multiple healthcare and public service entities utilizing EMResources for this same purpose. The local RETAC can be a strong player in obtaining this function, not only for Custer County Ambulance but for the entire region. The majority of time, the ambulance service members are at the station when an incident is dispatched. For this reason, a real-time monitor should be placed at the station and another monitor placed in dispatch to assist with resource utilization while EMS is on an incident. There is an annual grant for disaster preparedness offered by the CDPHE for hospitals and clinics. The grant requirements are easily obtainable and this type of software could be appropriately purchased with these funds.
- Participate in regional coordination of implementation of an enhanced interoperability system. All agencies in the region should work towards utilizing enhanced interoperability software to support and improve the overall communication and utilization of regional

resources. Monitors should be placed throughout the region to be viewed where key decision makers can view the availability of resources. The RETAC would be a primary champion of a implementing this system. Custer County Ambulance should actively participate in this implementation process.

Education Recommendations

Short-term (1 to 2 years)

- Update the department's website. In today's technological climate, website communication is valuable in marketing a business. Although Custer County Ambulance is a public service business, marketing the department would have many benefits. Recruitment efforts could be added through job postings. Many agencies post a company calendar to communicate events and meetings. Some utilize it for schedule planning and time off request. It can be utilized for community polls and surveys of the service as well as help with preventative education for the community. It is recommended that the department update the service website and plan objectives of its uses.
- Review available grant opportunities through the Colorado Rural Health Center CREATE grant process and the Colorado Department of Public Health and Environment's Emergency Medical and Trauma Services Branch to help offset training costs including facilitating personnel attendance at state-wide EMS Conferences.
- Continue the annual EMT training course offered in the community. Identify grant opportunities through the CREATE grant process that may be available to reduce expenses for students.
- Continue to develop partnerships with training centers such as Pueblo Community College, Saint Mary-Corwin, and other educational facilities to provide local EMT courses, as well as Advanced EMT courses and continuing education.
- Engage the medical director to assist with a quality assurance/quality improvement driven continuing education program.
- Make education and hands-on training an organizational priority starting with new members, continuing through a defined program. Reclaim the Custer County Ambulance training room and budget funds to progressively make it a comfortable, well-equipped facility.
- Custer County Ambulance should make a commitment to engage in community-wide, multi-disciplinary illness and injury prevention activities. Prevention should be recognized as not only a method to improve the health and safety of the community, but as an avenue to connect with all segments the community including school aged children, adults and seniors in a mutually beneficial manner.
- Consider assigning a public education/prevention coordinator within the ambulance service to

continue developing the current activities and seek new opportunities including prevention programs. The public education/prevention coordinator should provide public education designed to 1) continually inform the community about the EMS program, 2) improve community health through awareness, and 3) train the community to "become part the EMS system" through first aid, CPR and AED training. This coordinator should routinely assess the effectiveness of the public education and prevention programs. In addition, make public education part of the job expectations of all Custer County Ambulance service members.

- Engage stakeholders to conduct a regional risk assessment to identify public education needs and potential funding sources, if needed.

Medium-term (3 to 5 years)

- Consider at least partial financial sponsorship to either an Intermediate or Paramedic training course for an eligible EMT willing to commit to service with Custer County Ambulance after completing training. Seek additional CREATE grant support for such a venture.
- Engage the RETAC, fire departments, community health clinic, public health, schools and other stakeholders to conduct a regional risk assessment, and then develop an achievable prevention plan.
- Use on-duty ambulance service members to carry out prevention activities, when possible.
- Develop a structured public access defibrillation (PAD) program, and identify a Custer County Ambulance member to coordinate the program. Contact the Colorado Rural Health Center or the Southern Colorado RETAC for assistance. Utilize available funding through Colorado Rural Health and the RETAC to increase the number of AEDs in the community. Once the PAD program is established, bring current AED placement locations into the program, and identify target locations for new placements. Develop site plans to assure AEDs are deployed when needed, and include training for "targeted users" and other community members.

Long-term (5 years)

- Increase the number of qualified EMS providers by developing a trained cohort of EMS providers locally. Use a progressive approach that begins with basic CPR/AED training as part of the health curriculum for high school freshman. Then increase the students' capabilities the following year by adding an introductory first aid component to the program for sophomores. High school juniors would have access to an Emergency Medical Responder (EMR) course and anatomy and physiology class as an elective. This instruction would help

prepare students for a career in healthcare, fire service, energy development and production or a wide variety of other industries with mandated requirements for work site safety. The initial EMT course should then be offered as an elective (a qualifying required elective) for high school seniors. Once they reach 18, they can complete the National Registry Exam to be certified as an EMT and graduate with a marketable skill. Those students interested in a healthcare career can use this as a springboard to become a Paramedic or achieve higher levels of training to pursue a degree in a healthcare field such as nursing or medical school. Those with other interests can use it to distinguish themselves in a competitive job market or as an opportunity to serve their community as a volunteer EMS provider. In addition, if the initial EMT course is offered through a cooperative agreement between the local school district and a community college, students can earn college credit and build hours toward a degree program.

Appendix A
Custer County Ambulance Service Statistics 2013

Request for Service Townships/Counties

City	# of Runs	% of Runs
Canon City	1	0.30%
Hillside	1	0.30%
Pueblo West	10	3.03%
Rosita	10	3.03%
San Isabel	2	0.61%
Silver Cliff	24	7.27%
Tanglewood Acres	3	0.91%
Westcliffe	279	84.55%
Total	**330**	**100%**

County	# of Runs	% of Runs
Custer	318	96.36%
Fremont	2	0.61%
PUEBLO	10	3.03%
Unknown	0	0.00%
Total	**330**	**100%**

Request for Service Time Frames

Time	Sunday	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Total	Percent
0000 - 0300	3	4	0	4	1	2	6	20	6.06%
0300 - 0600	2	3	1	1	1	0	0	8	2.42%
0600 - 0900	3	6	3	9	4	1	3	29	8.79%
0900 - 1200	9	10	9	11	7	7	10	63	19.09%
1200 - 1500	11	8	12	12	5	10	6	64	19.39%
1500 - 1800	10	10	8	12	14	5	11	70	21.21%
1800 - 2100	4	7	3	9	8	10	2	43	13.03%
2100 - 2400	7	1	2	3	3	4	7	27	8.18%
Unknown	0	1	0	0	3	2	0	6	1.82%
Total	**49**	**50**	**38**	**61**	**46**	**41**	**45**	**330**	**100%**

Run Times

Enroute (Responding - Unit Notified Dispatched)		
Minutes	# of Runs	% of Runs
0 - 1	61	18.48%
2-3	100	30.30%
45	52	15.76%
> 5	111	33.64%
Unknown	6	1.82%
Total	**330**	**100%**

Transport Time (Arrive Hospital - Depart Scene)		
Minutes	# of Runs	% of Runs
0 - 5	17	5.15%
6-10	1	0.30%
11-15	4	1.21%
> 15	230	69.70%
Unknown	78	23.64%
Total	**330**	**100%**

Response Time (Arrive Scene - Enroute)		
Minutes	# of Runs	% of Runs
0 - 5	191	57.88%
6-10	31	9.39%
11-15	38	11.52%
> 15	64	19.39%
Unknown	6	1.82%
Total	**330**	**100%**

Average Run Times	
Enroute	0:04:59
To Scene	0:08:02
At Scene	0:26:17
To Destination	1:04:14
Back in Service	1:29:57
Total	**3:13:29**

Run Mileage

To Scene		
Miles	# of Runs	% of Runs
0 - 5	205	62.12%
6-10	52	15.76%
11-15	30	9.09%
16 - 20	10	3.03%
> 20	10	3.03%
Unknown	23	6.97%
Total	**330**	**100%**

To Destination		
Miles	# of Runs	% of Runs
0 - 5	91	27.58%
6-10	6	1.82%
11-15	0	0.00%
16 - 20	1	0.30%
> 20	220	66.67%
Unknown	12	3.64%
Total	**330**	**100%**

Destination and Disposition

Destination	# of Runs	% of Runs
Heart of the Rockes Regional Medical Center	2	0.61%
Memorial Health System	1	0.30%
Other Hospital	2	0.61%
Parkview Medical Center	151	45.76%
Penrose-St.Francis	3	0.91%
St. Mary Corwin	53	16.06%
St. Thomas More	28	8.48%
No Destination	90	27.27%
Total	**330**	**100%**

Response Disposition	# of Times	% of Times
Cancelled	2	0.61%
Dead at Scene	4	1.21%
No Patient Found	1	0.30%
No Treatment Required	21	6.36%
Patient Refused Care	45	13.64%
Standby Only - No Patient Contacts	4	1.21%
Treated, Transferred Care	20	6.06%
Treated, Transported by EMS (ALS)	228	69.09%
Treated, Transported by Law Enforcement	1	0.30%
Unknown	4	1.21%
Total	**330**	**100%**

Dispatch Info

Dispatch Reason	# of Times	% of Times
Abdominal Pain	18	5.45%
Altered Mental Status	8	2.42%
Anaphylactic Reaction	4	1.21%
Animal Bite	1	0.30%
Assault	6	1.82%
Back Pain (Non-Traumatic/Non-Recent Trauma)	5	1.52%
Breathing Problem	26	7.88%
Cardiac Arrest	3	0.91%
Chest Pain	36	10.91%
Choking	1	0.30%
Diabetic Problem	1	0.30%
Fall Victim	27	8.18%
Fire Standby	2	0.61%
Headache	4	1.21%
Heart Problems	3	0.91%
Hemorrhage/Laceration	7	2.12%
Ingestion/Poisoning	2	0.61%
Invalid Assist/Lifting Assist	1	0.30%
Machine/equipment Injury	1	0.30%
MCI (Multiple Casualty Incident)	5	1.52%
Medical Transport	15	4.55%
Other	30	9.09%
Overdose	8	2.42%
Pain	12	3.64%
Psychiatric Problems	6	1.82%
Seizure/Convulsions	5	1.52%
Sick Person	11	3.33%
Stroke/CVA	11	3.33%
Traffic/Transportation Accident	30	9.09%
Traumatic Injury	19	5.76%
Unconscious/Fainting	11	3.33%
Unknown Problem/Man Down	3	0.91%
Unknown	8	2.42%
Total	**330**	**100%**

Patient Age Range

Age	# of Runs	% of Runs
Less Than	1	0.30%
1-4	6	1.82%
5-9	5	1.52%
10-14	7	2.12%
15 - 19	16	4.85%
20 - 24	18	5.45%
25 - 34	20	6.06%
35 - 44	24	7.27%
45 - 54	32	9.70%
55 - 64	60	18.18%
65 - 74	52	15.76%
75 - 84	49	14.85%
85+	27	8.18%
Unknown	13	3.94%
Total	**330**	**100%**
	Average Patient Age: 55	

Appendix B
List of Stakeholders Interviewed

County Officials

Custer County Commissioners

Hospital District

District Administration

West Custer Hospital District Board of Directors

County Services

Custer County Public Health and Coroner

Custer County Sheriff's Department Communication Center

Custer County Emergency Manager

EMS/Fire Agencies

Beulah Fire Protection District

Custer County Ambulance Service

Custer County Search and Rescue

Florence Fire Department

Rye Fire Protection District

Wet Mountain Fire Protection District and Board

Wetmore Fire Protection District

Rye Fire Protection District

Appendix C
Definition of Terms

Advanced Life Support- A level of medical care provided by a Paramedic in the prehospital setting. A Paramedic is an individual who has a current and valid Paramedic certificate issued by the department and who is authorized to provide advanced emergency medical care in accordance with Chapter Two rules.[1]

Basic Life Support- A level of medical care provide by an emergency medical technician in the prehospital setting. An emergency medical technician is an individual who has a current and valid EMT certificate issued by the department and who is authorized to provide basic emergency medical care in accordance with Chapter Two rules.[1]

Community Paramedic- A state licensed EMS professional who has completed a formal standardized Community Paramedic educational program through an accredited college or university and has demonstrated competence in the provision of health education, monitoring, and services beyond the roles of traditional emergency care and transport, and in conjunction with medical direction. They receive clinical training, provide in-home visits, work under medical direction, manage patients with chronic conditions, and help to prevent hospital readmissions.[3] The specific roles and services are determined by community health needs and in collaboration with public health and medical direction. Services may include interventions intended to prevent avoidable ambulance transportation or hospital emergency department use, including the performance of minor medical procedures, initial assessments within the community Paramedic scope of practice, care coordination, diagnosis related to patient education, and the monitoring of chronic disease management directives in accordance with educational preparation, and other services determined appropriate by the medical director.

Rural Health Clinic - A facility located in a non-urbanized area that typically furnishes outpatient health care services. Rural health clinics were established to address an inadequate supply of physicians serving Medicare beneficiaries in underserved areas. Rural health clinics are paid an all-inclusive rate per visit for certain primary and preventive health services. Rural health clinics can be either independent or provider-based. Independent clinics are freestanding clinics where as provider-based clinics are integral and subordinate parts of a hospital, skilled nursing facility or a home health agency.[4] Payment rates are different for independent clinics compared to provider-based clinics.

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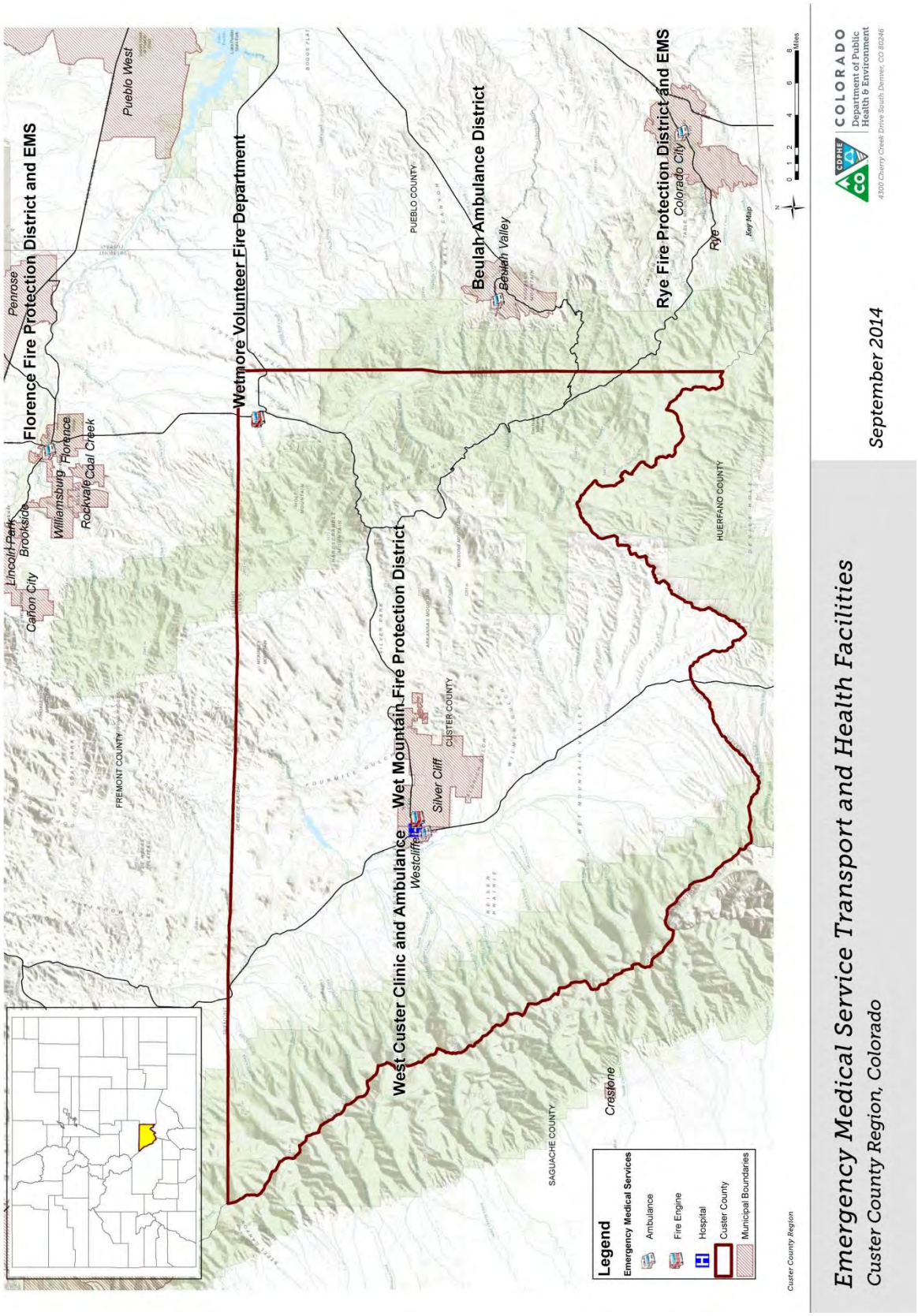
[1]6 CCR 1015-3, Health Facilities and Emergency Medical Services Division Chapter Two- Rules Pertaining to EMS Practice and Medical Direction Oversight, April 2013
[2]6 CCR 1011-1, Standards for Hospitals and Health Facilities, Chapter 9, Community Clinics and Community Clinics and Emergency Centers
[3]The Flex Monitoring Team. *The Evidence for Community Paramedicine in Rural Areas: State and Local Findings and the Role of the State Flex Program.* University of Minnesota, University of North Carolina at Chapel Hill, University of Southern Maine, February 2014
[4]Medicare Benefit Policy Manual, Chapter 13, Rural Health Clinic and Federally Qualified Health Center Service

Appendix D
Custer County Service Map



Appendix E

Consultative Visit Team Biographical Information

Randy Lesher, Paramedic

Randy Lesher is the Chief of Thompson Valley Emergency Medical Services, a Health Services District located in suburban Loveland, Colorado. Randy started his EMS career in a Funeral Home – based Ambulance Service in Cañon City moving on to owning and operating his own Ambulance Service for 15 years in Fremont County. He is currently a member of the State Emergency Medical and Trauma Services Advisory Council and chairs the Public Policy and Finance Committee. Randy is a member of the Northeast Colorado RETAC representing Larimer County, sits on the Larimer Emergency Telephone Authority and the Fremont County E-911 Board. He currently serves as the President of the EMS Association of Colorado, a non-profit professional organization representing EMS providers and ambulance services statewide.

David Ross, DO, FACEP

David Ross, DO, FACEP, recently completed service as an emergency physician at the Penrose-St. Francis hospitals in Colorado Springs after a 22-year career. During the majority of this time, Dr. Ross also served as medical director for a large number of EMS agencies in the Colorado Springs region. In May 2014 he retired from his emergency medicine and EMS medical direction practice and is, currently, not affiliated with any hospital or fire/EMS agency. He has been an active participant at the State of Colorado level in EMS. He is a past member of a number of the State Emergency Medical and Trauma Services Advisory Council (SEMTAC) and related task forces and subcommittees. He has served in a variety of leadership roles with the American College of Emergency Physicians and the Colorado and El Paso County medical societies and is a member of the National Association of EMS Physicians. Dr. Ross completed medical school training at Western University of the Health Sciences, College of Osteopathic Medicine of the Pacific in Pomona, CA and an internship at the Chicago College of Osteopathic Medicine. After a period of time as an air force flight surgeon, he did his residency in emergency medicine at the Louisiana State University School of Medicine/Charity Hospital in New Orleans, LA, followed by a fellowship in hyperbaric medicine. He is board certified in both emergency medicine and emergency medical services.

Scott Sholes, BA, Paramedic

Scott began his EMS career as an EMT with the pre-hospital program at Mercy Medical Center in Durango, Colorado in 1979. He has been active in both ground and aero medical service as a Paramedic. Currently Scott is the EMS Chief for Durango Fire and Rescue, building and coordinating the EMS program, while becoming increasingly involved at the regional, state level and national level. In 2009 he was selected to serve on the NAEMT Safety Course Committee developing the new certification course in EMS safety. His current service also includes: Chair of the La Plata County EMS Council; Board Member of the Southwest Regional Emergency Medical and Trauma Advisory Council; Vice President of the Emergency Medical Services Association of Colorado; Secretary/Treasurer of the Colorado EMS Chiefs, Managers and Directors Association; President of Heart Safe La Plata.

Jason Webb, FP-C, NR-Paramedic

Jason Webb is the Chief Paramedic for Pagosa EMS, a department of the Upper San Juan Health Service District. Jason started his EMS career in 2001. As a Colorado native, he has experienced various aspects of the EMS industry. His EMS roots began working for a BLS volunteer service in rural Colorado as an EMT. During his volunteer days, Jason worked within many hospital systems specializing in Critical Care areas. In 2002 he was awarded Memorial Hospitals Critical Care Technician of the year award. He obtained his Paramedic certification and worked for Denver Health as a street paramedic and primary instructor for their many education programs. His specialty topics of instruction included cardiology, pulmonology, pharmacology, pediatrics and all hazards preparedness. In 2010 he was awarded The Denver Health EMS Preceptor of the Year award and 2011 was awarded the Denver Health EMS Instructor of the year award. Jason is a training center faculty member for Colorado CPR Association and currently teaches Advanced Cardiac Life Support and Pediatric Advanced Life Support. In 2011, Jason moved to Pagosa Springs as the EMS training captain. He developed the state certified Pagosa EMS Training Center and began delivering EMS education to the community in southwest Colorado. The center partnered with Denver Health to deliver the state's first intermediate to paramedic distant learning program. Jason maintains National Registry Certification and FP-C certification of the Board of Critical Care Transport Paramedic Certification. He also is a certified instructor for many associations in a variety of disciplines. In 2013 he became the Assistant Chief Paramedic and 2014 became the Chief Paramedic for Pagosa EMS. Under his leadership the service was awarded the 2014 Emergency Medical Services Association of Colorado Ambulance Service of the Year Award. The department is a primary 9-1-1 service with inter-facility ground critical care transport programs. He was instrumental in the health service district achieving trauma designation IV status. He is a member of many various health service district committees as well is the chair of the disaster preparedness committee. He is active in the Southwest RETAC. Jason is a board of director member for the Pagosa Springs Fire Protection District and Archuletta County Combined Communication Center.

Colorado Rural Health Center

Jennifer Dunn, MPA

Jennifer works as the Director of Programs, where she is responsible for the oversight of the Critical Access Hospital (CAH), Rural Health Clinic (RHC), and Emergency Medical Services (EMS)/Emergency Preparedness programs. She earned a Bachelor's Degree from Concordia College in Moorhead, Minnesota and a Master's Degree in Public Administration from the University of Colorado at Denver. Jennifer has previous experience in training, product line development, and health insurance programs for underserved children and families.

Tommy Barnhart, BA

Tommy Barnhart has over 40 years of experience in healthcare finance and operations, working with hospitals, long-term care providers, home health agencies, hospices, clinics and other healthcare entities. Tommy has a B.A. (Business Administration) from Bridgewater College. Tommy is former CFO of large rural hospital and has consulted on a wide variety of financial management and operational issues including: Preparation of facility operating and capital budgets; rate setting, including procedure and departmental level; evaluating financial management operations of various healthcare entities and assisting with the implementation of improvements to financial management and

information systems designing, evaluating and implementing electronic information systems for various provider types; capital planning, financing and strategic planning related to new construction, renovations, market analysis and patient services; preparation and analysis of cost reports for healthcare entities; appeals of Medicare and Medicaid reimbursement and billing issues for various provider types; and coordination of community providers into collaborative arrangements to meet community health needs. His professional and organization affiliations include: being a fellow in the Healthcare Financial Management Association; National Rural Health Association of which he is the: Chair of the Rural Health Congress and Member in the Board of Trustees and Government Affairs Committee; Rural Hospital Issues Group; Rural Health Information Technology Coalition; and Rural Technical Assistance Center (TASC) Key Informant Group.

The Department Representative

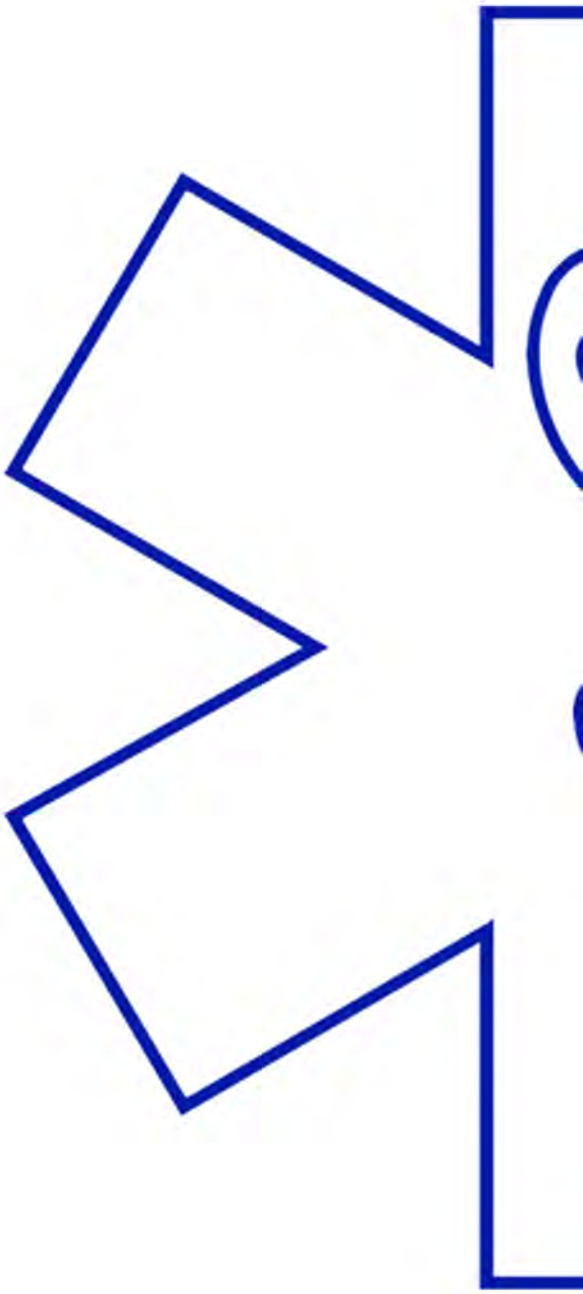
Matt Concialdi, BA, NR-Paramedic

Matt Concialdi is the EMS System Development Coordinator at the Colorado Department of Public Health and Environment, Emergency Medical and Trauma Services Branch. In addition, Matt staffs the State Emergency Medical and Trauma Services Advisory Council's Safety Committee and is the Co-Chair on the Safety and Security Committee for the department. Matt served as the project manager, writer and editor for this consultative visit. He is a NREMT-Paramedic who started his EMS career in 2001 working in the EMS system of Orange County, CA. Matt holds degrees in Emergency Management, Fire Technology Medical Services Officer and Paramedic. In 2011, he moved to Colorado and began working in the City of Aurora EMS system. He has spent most of his career as a field training officer training both EMTs and Paramedics as well as worked as a dispatcher in an emergency and non-emergency ambulance communication center. Matt has additional experience in EMS education as a primary instructor and clinical skills specialist. In 2013 he received the Excellence in Patient Care (EPIC) coin award through HealthOne and was a recipient of the Phoenix Lifesaving Award from the City of Aurora Fire Department. He also owns his own CPR/First Aid and emergency preparedness business serving the Denver Metro area. In 2012 Matt became a member of CO-2 Disaster Medical Assistance Team, a federal response team though the Health and Human Services Division of the Department of Homeland Security.

References:

[1]United States Census Bureau. State & County QuickFacts. Custer County
[2]U.S. Decennial Census. Custer County. Found at Census.gov.
[3]City-Data. Custer County. Found at http://www.city-data.com/county/Custer_County-CO.html
[4] Dan Plazak (2006) *A Hole in the Ground with a Liar at the Top*, ISBN 978-0-87480-840-7
[5] Table 6 - NFS Acreage by State, Congressional District and County - United States Forest Service - September 30, 2007

All photos taken and provided courtesy of Matt Concialdi



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