



Emergency Medical Services Consultative Visit



Washington County, Colorado

June 15, 2013

STATE OF COLORADO

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH
Executive Director and Chief Medical Officer

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

4300 Cherry Creek Dr. S. Laboratory Services Division
Denver, Colorado 80246-1530 8100 Lowry Blvd.
Phone (303) 692-2000 Denver, Colorado 80230-6928
Located in Glendale, Colorado (303) 692-3090
<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

June 15, 2013

Washington County
Board of County Commissioners
150 Ash Avenue
Akron, Colorado 80720

Dear Commissioners,

On behalf of the Colorado Department of Public Health and Environment and the Northeast Colorado Regional Emergency Medical and Trauma Advisory Council (NCRETAC), attached is the Washington County Emergency Medical Services (EMS) system consultative review report. Pursuant to your invitation and support of this project, a group of EMS system consultants worked under the general coordination of both the NCRETAC and the department to review the current status of the EMS system in Washington County. The Washington Board of County Commissioners and the Washington County emergency services community are to be commended for the dedication and foresight you have demonstrated by undertaking this important activity. Hopefully, 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 NCRETAC 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 to all Coloradans. As such, the department looks forward to working with local stakeholders to support your future decisions regarding local system improvements.

As the local community considers its next steps, if our office or the NCRETAC can be of further assistance, we will look forward to the opportunity.

Respectfully,

A handwritten signature in blue ink that reads "D. Randy Kuykendall". The signature is written in a cursive style with a prominent "D" and "K".

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

Table of Contents

Table of Contents	1
Introduction and Project Overview	3
Washington County Geography and Demographics	4
Emergency Medical and Trauma Services Providers	5
Washington County Ambulance Service:	5
South Y-W Ambulance Service:	6
Akron Volunteer Fire Department.....	6
Otis Volunteer Fire Department.....	7
Cope Rural Fire Protection District	7
Southwest Washington County Fire Protection District.....	7
Washington County Clinic	8
East Morgan County Hospital.....	8
Yuma District Hospital.....	8
Colorado Plains Medical Center	9
Sterling Regional Medical Center	10
Washington County Sheriff's Office	10
Washington - Yuma Communications Center	11
Analysis of Washington County EMS System Elements	12
System Finance	12
Public Access.....	15
Integration of Health Services	16
Legislation and Regulation	17
Human Resources	20
Clinical Care.....	22
Education Systems	24
Communications	26
Information Systems	27
Evaluation	28
Public Education	29
Mass Casualty	30
Prevention.....	31
Research.....	32
Overall Effectiveness	32
Washington County EMS – A Vision	33
Summary of Recommendations	34

Short-Term Recommendations (1 Year).....	35
Determine Service Areas and License All Ambulance Services	35
Improve Protocols, Quality Improvement and Oversight.....	36
Improve Responder Scheduling	36
Explore Additional Transport Revenue	37
Improve Volunteer Pay and Incentives	38
Improve Procurement Practices	38
Increase Paid Staffing Level.....	39
Medium Term (1 -2 Years).....	40
Clearly Define EMS Roles Outside the Prehospital Environment	40
Consider Quick Response ALS Unit.....	40
Reintroduce Interagency Coordination Council	41
Develop Recruitment and Training Plan	42
Improve Clinic Collaboration	42
Develop Facilities and Capital Replacement Strategy	43
Improve Continuing Education Opportunities	43
Long Term Recommendations (2 or More Years)	45
Improve Collaboration and Integration of Health Services	45
Consider Health Services District	45
Develop Additional EMR Personnel System Wide.....	46
Consider School-Based EMR or EMT Program.....	46
Enhanced EMS System Pro Forma Budget	47
Pro Forma Description	48
List of Stakeholders Interviewed	49
Assessment Team Biographical Information	50
Gene Eby, MD	50
Paul Mattson	50
Bryan Rickman.....	50
Candy Shoemaker	51
Eunice Weber	51
Sean Caffrey	51

Introduction and Project Overview

In the spring of 2012 the Board of County Commissioners (BOCC) of Washington County requested grant funding from the Colorado Department of Public Health and Environment (CDPHE) to provide an assessment and consultation of the emergency medical services (EMS) system county wide. In addition to the BOCC serving as the ground ambulance licensing authority, the county government also operates the Washington County Ambulance Service (WCAS) that provides EMS to a large portion of the county. In July of 2012 the county was awarded a system improvement grant to conduct the consultation.

Under Colorado law, the Washington County Board of County Commissioners is the ambulance licensing authority as defined by C.R.S. § 25-3.5-301. The county has additional authority to operate an ambulance service as defined in C.R.S. § 30-11-107(q). WCAS was a driving force behind the request for an EMS consultation and was a full participant in the process from start to finish. In addition to WCAS, ambulance service is provided to portions of the county by the South Y-W Ambulance Service, the City of Yuma, the Morgan County Ambulance Service and the Logan County Ambulance Service operated by the Sterling Fire Department. Both WCAS and the South Y-W ambulance service were participants in this consultation.

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

The system improvement grant authorized approximately \$23,000 to conduct the review and developed a contractual relationship with the NCRETAC to serve as the fiscal agent for the project. Project management for the consultative visit was provided by the EMS system development coordinator and a team of five seasoned EMTS leaders. All of the team members were selected jointly by the EMTS Section, NCRETAC and approved by Washington County based on their expertise in rural EMS systems. In addition to these team members, the NCRETAC coordinator was instrumental to the success and support of the project team.

Washington County Geography and Demographics

Washington County, Colorado encompasses 2,524 square miles in northeast Colorado in the region of the state known as the Eastern Plains. The eastern two-thirds of the county is relatively flat and were primarily formed by the deposition of loess and dune sand and by stream erosion. The western third of the county is within the South Platte River basin and contains a number of tributary streams that carved the land. The area is well suited to agriculture that serves as the primary economic activity in the area. The county ranges in elevation from 4,090 to 5,365 feet above sea level. The county itself was formed in 1887 when Weld County was divided into three counties (Logan, Washington and Weld). Akron was designated as the county seat at the time of formation. The eastern portion of the county was split off in 1889 to form Yuma County and the southern portion of the county was added in 1903 when Adams and Arapahoe Counties were reconfigured following the creation of the City and County of Denver. The county is named for the first president of the United States, George Washington. Washington County contains the two incorporated towns of Akron and Otis as well as the unincorporated places of Anton, Cope, Last Chance, Lindon, Messex, Platner and Woodrow.

Washington County had a 2012 estimated population of 4,766 in approximately 2,089 households according to the Colorado State Demography Office and the U.S. Census Bureau. The county includes the incorporated municipalities of Akron (population 1,683) and Otis (population 470) and a population in unincorporated areas of 2,606. The overall population density is 1.9 persons per square mile with maximum population densities of 1,179 persons per square mile within the Town of Akron and 1,304 persons per square mile in Otis.

A 13 mile segment of Interstate 76 as well as a six mile portion of U.S. Highway 6 runs through the northwestern portion of Washington County in the Hillrose area. 37 miles of U.S. Highway 34 and 51 miles of U.S. Highway 36 run east-west through central and southern portions of the county respectively. Portions of State Highways 61, 63 and 71 also traverse the county in a north-south alignment. The Colorado Department of Transportation reports average daily traffic volumes of 250 – 5,000 vehicles per day on local highways with the highest traffic counts recorded in the Akron and Otis areas. The Colorado Department of Transportation estimates traffic volumes will increase by 30 – 230 percent over the next 20 years with the largest increases expected on State Highway 61.

Emergency Medical and Trauma Services Providers

Washington County Ambulance Service:

The Washington County Ambulance Service (WCAS) is the sole provider of ground ambulance service to the majority of Washington County. WCAS is a department of the county government. The Board of County Commissioners (BOCC) is responsible for the management, governance, budgetary and financial issues for the service.

The WCAS service area covers approximately 2,000 square miles with an estimated population of 4,500 in 2012. In 2012 WCAS responded to 330 requests for service resulting in about 240 patient transports. There are five ambulances in its fleet. Each ambulance is equipped to provide ALS care. Most calls are staffed with at least one paid/staff paramedic and an EMT.

Day-to-day operations are directed by the full-time and longtime serving director who also responds as a paramedic. For 2013 WCAS has an annual budget of \$320,549. Revenues are generated by both ambulance fees for service and a portion of a 1.5 percent sales tax assessed by the county. Details on the payor mix for ambulance fees are presented in the system finance section of this report.

WCAS began operations in 1970 with two Cadillac ambulances. The ambulance service has been the only healthcare provider in the county to provide uninterrupted service since its formation. Ambulances were originally dispatched by on duty sheriff's office jailers. Today the service maintains a fleet of five ambulances in four stations located throughout the county and is dispatched through a professional communications center located in Yuma. There are two ambulances based in Akron and one ambulance each in Otis, Anton and Last Chance. WCAS employs three full time paramedics and the paid staff is supplemented with "volunteers" who receive payment for responses and on-call time. A significant number of EMS calls occur in the town limits of Akron, the largest town in Washington County. The other unincorporated communities in the WCAS service area are very small rural communities with limited resources. Communities in Washington County are located on rural two lane highways at great distances from each other resulting in extended response times under the best of weather conditions.

In 1991 the Washington County Hospital ceased operations as a hospital and became an urgent care facility. The hospital formally closed in 1996. The change in status and the ultimate closing of the hospital significantly impacted the provision of ambulance services. Prior to the closure, calls required about 30 minutes to complete. Today, transports require a minimum of 2.5 to 3 hours of crew time thereby limiting staff availability. Patients are transported to the nearest appropriate hospital. WCAS responders are well versed in the capabilities of the various hospitals in relation to the individual patient needs. The East Morgan County Hospital located in the Town of Brush is about 24 miles distant. The Yuma District Hospital located in Yuma County is about 27 miles by highway from Akron. The Colorado Plains Medical Center in Fort Morgan is about 33 highway miles away. The Sterling Regional Medical Center is about 34 highway miles from Akron. The small population would

not indicate that a local hospital is a serious possibility. Therefore, transports out of the county will likely continue to be the norm for WCAS.

WCAS serves a population that has decreased approximately 5 percent since 2000 with an increasingly aging population. It is thought the population continues to decrease as family farms are sold to large farming corporations headquartered out of the county. The lack of employment opportunities in Washington County are also believed to result in the migration of younger residents.

South Y-W Ambulance Service:

The South Y-W Ambulance Service, Inc. (SYWAS) is a 501 (c)(3) nonprofit corporation established in 1980. The service is based in Kirk and provides ambulance service to approximately 2,000 residents in Yuma and southeastern Washington Counties. The total response area is approximately 790 square miles including 250 square miles in the southeastern corner of Washington County including the unincorporated and very small community of Cope. The service's two ambulances are owned by and licensed in Yuma County. The service is primarily funded by patient fees for service, donations and support from Yuma County Government. South Y-W Ambulance Service operates on an annual budget of \$24,000. Volunteers are paid a stipend of \$50 per call.

The all-volunteer staff of approximately 13 includes three EMT-Intermediates. Of those 13 staff, crew members indicated about 4 – 5 individuals were very active. The service responded to 31 calls in 2012, with an estimated average of 25 – 30 percent of them in Washington County. Transports from Washington County are usually to Yuma District Hospital in Yuma, an average of 40 miles, or occasionally to Wray that averages 70 miles.

The service is overseen by a Board of Directors and day-to-day operations are directed by a volunteer EMT-Intermediate / director. A volunteer business manager coordinates all business activities for the service. The medical director for the service is in Wray.

Akron Volunteer Fire Department

The Akron Fire Company was formed in 1890. The Akron Rural Fire Protection District was formed in 1954 to provide the rural residents with fire protection. Today the Akron Volunteer Fire Department is operated with funding from both the rural district and the Town of Akron. Akron is located in north central Washington County at the intersection of U.S. Highway 34 and State Highway 63. The service area has an approximate population of 2,000 people and the department provides service to about 650 square miles (417,000 acres) in Washington County. The volunteer fire department has 22 members who respond to approximately 60 calls for service per year. The department responds from a central station located in the downtown area of Akron. The department responds to all motor vehicle accidents that require extrication and will respond to assist EMS as needed. One member is a state certified EMT. A number of other members have received first aid and CPR training, and there is some interest in expanding to medical training. The department's annual budget includes approximately \$71,000 from rural fire district funds and \$30,000 from the Town of Akron. A significant capital reserve fund has also been developed for upcoming fire equipment purchases including a planned 3,000 gallon tanker in the near future.

Otis Volunteer Fire Department

The Otis Volunteer Fire Department was formed in 1922 and covers 540 square miles that includes the incorporated Town of Otis as well as the surrounding Otis Rural Fire Protection District. The department provides service to about 1,000 residents. The department has approximately 16 active volunteer responders including two members with Emergency Medical Responder (EMR) training and two paramedic level providers who are also employed by the Washington County Ambulance Service. The department trains all of their personnel in first aid and CPR. Otis VFD primarily responds to wildfire incidents and structure fires with an estimated volume of 20 calls annually. They respond to emergency medical calls upon request and mostly provide extrication or lifting assistance. The Otis Rural Fire Protection District has an estimated annual budget of \$47,266 with a property tax mill levy rate of 2.125 mills. The Town of Otis (which is not included in the fire district) contributes \$150 per month toward the operation of the department.

Cope Rural Fire Protection District

The Cope Rural Fire Protection District was formed in the early 1960s and is organized as a special district. The mill levy rate assessed by the district in 2013 is 3.41. Services provided by the fire department include fire suppression, wild land firefighting, vehicle rescue and response to hazardous materials incidents. The department currently has 17 personnel and one member is an EMT who also responds with South Y-W Ambulance Service. The department runs about 20 calls per year.

The department provides service to about 221 square miles of southeastern Washington County. The budget for 2013 indicates expenses of \$109,000 with expected revenue of about \$40,000 from taxes. The 2013 budget includes a capital outlay of \$65,000.

Southwest Washington County Fire Protection District

The Southwest Washington County Fire Protection District is a special district that was formed in 1995 following a large fire in southwestern Washington County. The district covers 950 square miles of rolling prairie and large farms and includes the unincorporated towns of Anton and Last Chance. The department had an operating budget of \$78,240 in 2012. The district charges response fees for traffic accidents involving trucks carrying hazardous materials. Due to the increased demand, a hazardous materials response team recently has been established for the county and is based in Anton. In addition to fire apparatus housed in two stations in Anton and Last Chance, a WCAS ambulance is also housed in each of the district's fire stations.

There are 16 members on the roster: eight in Last Chance, including one EMT-Intermediate, and eight in Anton with one EMT. All firefighters are trained in either first aid and CPR or as emergency medical responders. All members with EMS provider certifications are also volunteers with WCAS and all EMS activity, including EMS training and education for the district, is managed by WCAS. The ambulances located in Last Chance and Anton are usually staffed by an EMS provider with a firefighter driver. The two stations respond to an average of 80 calls per year with half being EMS related. Most EMS calls are for traffic accidents on State Highways 71 or 36. There are two schools in the district, and both have

AEDs on site and train students in CPR/AED. The AEDs are maintained by the Washington County emergency manager.

Washington County Clinic

The Washington County Clinic is designated as a rural health clinic by the federal Center for Medicare and Medicaid Services (CMS) and is located in Akron. The clinic is operated as a department of county government. A local nurse practitioner serves as the lead provider who is supplemented a few days a month by visiting physicians. The clinic is open mostly during weekdays and is supported by a part-time manager and two staff members with RN or medical assistant training. During a recent staffing shortage, two paramedics from Washington County Ambulance Service assisted at the clinic. The staff at Washington County Clinic felt it was advantageous to have paramedics work at the clinic. Services provided by the clinic include lab and x-rays. An AED is also available if needed. Staff members have worked together to educate the public on the usage of 911, when and how to call. The clinic receives funds to support operations from the 1.5 percent sales tax dedicated to healthcare services. Since 2009, the clinic has also been in direct competition with the Akron Clinic operated by the Yuma District Hospital that offers similar services. It was thought that a local physician was the largest unmet need of the clinic and the community.

East Morgan County Hospital

The East Morgan County Hospital (ECMH) is located in Brush and is organized as a special district operated by Banner Health. EMCH is designated as a critical access hospital operating 25 beds and has a combined inpatient and outpatient volume of approximately 47,000 visits a year. There are full laboratory and medical imaging services available as well as intensive care, cardiac care, trauma care and outpatient services available. EMCH is also designated by the State of Colorado as a Level IV trauma center.

The five bed emergency department is staffed 24 hours a day with either an emergency medicine or family practice physician or physician assistant. The emergency department volume is approximately 4,000 visits a year. EMCH primarily receives ambulances from Morgan County Ambulance and the Washington County Ambulance Service. The hospital does provide telephone and/or radio consultation to EMS services when requested, but does not do so regularly. The facility is not currently a participant in EMS quality assurance or improvement activities and does not maintain an EMS protocol reference book in the emergency department. EMCH does participate in annual mass causality and disaster exercises. The hospital does not specifically provide outreach education to local EMS services. EMCH has a comfortable working relationship with the EMS agencies at Morgan County and WCAS. The administrative staff members report no issues with the care delivered by WCAS and feel the patients are well cared for in this emergency system.

Yuma District Hospital

The new Yuma District Hospital, opened in 2007, is located on the western edge of Yuma on State Highway 34. The facility, one of the newest in the area, was funded in large part by a USDA grant. The Yuma District Hospital is a licensed 22-bed critical access hospital serving

approximately 7,000 people in western Yuma County and eastern Washington County and is designated as a Level IV Trauma Center. The hospital offers a wide variety of services including inpatient care, surgical care, obstetrics and delivery, 24 hour emergency room, laboratory and home health care. The hospital district also operates a rural health clinic in Yuma and one outreach clinic in Akron. In 2011, the Yuma District Hospital linked up to the Colorado Telehealth Network, allowing data to be transferred to other medical providers at high speed. The hospital transfers many of their patients needing a higher level of care to other facilities located in Front Range metropolitan areas. Swedish Medical Center in the Denver area is used specifically for stroke patients. The City of Yuma operates an ambulance service that usually transports patients to other facilities as needed. The hospital utilizes both fixed wing and helicopter transport to transfer critical care patients.

In 2011, the hospital reported 1,618 emergency room visits. They receive patients from a variety of local and regional EMS services including Washington County, South Y-W Ambulance Service and the City of Yuma Ambulance Service. The hospital staff members believe patients receive excellent care from local ambulance crews.

On April 13, 2013, Yuma District Hospital Foundation received a one-year grant from the Colorado Health Foundation in the amount of \$273,675 for the "Life Trails at Yuma District Hospital Multigenerational Health Park." The park will be developed on an open space on the hospital campus. The park will be open to the public and serve as valuable tool for the community to achieve and maintain a healthier lifestyle.

Colorado Plains Medical Center

Colorado Plains Medical Center opened in 1952 and is located in Fort Morgan near Interstate 76. The hospital is owned by the non-profit Community Hospital Association and operated by Lifepoint Hospitals. The hospital was created exclusively through community donations. CPMC is located approximately 33 miles from the town of Akron and is a 50 bed acute care facility that is designated as a Level III trauma center. CPMC has laboratory, medical imaging, inpatient, intensive care, obstetrics, psychiatric, cardiac care, trauma care and outpatient services available. The annual volume of patient visits is approximately 43,000 visits a year, and the emergency department has an annual volume of approximately 8,000 visits per year. There are eight emergency department beds which are staffed 24/7 with physician and nurse staffing. Ambulance traffic is primarily received from Morgan County Ambulance and Washington County Ambulance Service.

Critical patient transfers occur mostly by air ambulance with weather occasionally requiring ground transportation by Morgan County Ambulance with or without the assistance of a CPMC critical care nurse when needed. CPMC serves as a base station to provide online medical control for the Morgan County Ambulance. These consultations are not recorded and no quality review occurs with the base station calls. The emergency department does not currently keep a copy of local EMS protocols for reference. CPMC monitors and utilizes the statewide Intermedix EMS system online service for mass casualty coordination and divert notification. Divert is rarely an issue for CPMC.

CPMC provides EMS continuing education through a yearly full day trauma symposium. This conference is well attended by local EMS providers and was referred to on multiple occasions by EMS stakeholders as an interesting and informative symposium. EMS providers are also invited to attend various certification courses, such as advanced cardiac life support, that are held on site for hospital staff. EMS attendance at these courses, however, is uncommon. The hospital regularly participates in disaster drills as required by the Joint Commission. EMS clinical care issues are addressed by the ED nurse manager to the service directors. CPMC staff members report no current issues with the quality of care offered by WCAS and indicate the care provided by this agency to be superior in their estimation.

Sterling Regional Medical Center

Sterling Regional Medical Center (SRMC) is located 33 miles north of Akron in Logan County. SRMC is a full-service, 36-bed, acute care hospital and is one of 22 hospitals operated by Banner Health, a non-profit corporation headquartered in Phoenix, Arizona. SRMC is currently designated as a Level III trauma center by the State of Colorado with 24/7 general surgery capability. It operates a 9 bed emergency department (ED) with approximately 8,400 ED visits annually. The ED is normally staffed with a physician and two registered nurses. In addition to emergency care, SRMC provides a full range of imaging and laboratory services as well as obstetrics, nursery, orthopedics and cancer care services. SRMC serves as a primary hospital for Washington County as well as many communities in southwestern Nebraska. Due to SRMC's familiarity with correctional medical services, most inmates from the Washington County Jail are treated at SRMC. While SRMC receives some patients from smaller hospitals in the region, most patients requiring specialized services not available locally are transported to hospitals in the Greeley, Fort Collins and Denver metropolitan areas. SRMC transfers out an average of 200 - 210 patients annually by ground or air ambulance.

Washington County Sheriff's Office

The Washington County Sheriff's Office is the sole local law enforcement jurisdiction in Washington County. In addition to the sheriff, the department's leadership includes an undersheriff, two captains, two lieutenants and two sergeants. The patrol division also includes four deputies, an investigator and an animal control officer.

The Washington County Justice Center opened in January 2002. The facility contains courtroom space for the Thirteenth Judicial District, as well as a 180-bed jail that boards prisoners from inside and mostly outside of Washington County. It houses all levels of inmates, both male & female, from minimum security to maximum populations. The Justice Center is a contract service facility willing to work with any corrections agency requiring bed space. Medical services at the facility are contracted to a private firm and overseen by the corrections captain. The captain also provides CPR and first aid classes for jail staff.

The sheriff's office maintains a volunteer victim assistance program that provides services to all crime victims. The volunteer advocates are on call 24/7 and also respond to suicides and provide death notifications.

Washington - Yuma Communications Center

Washington-Yuma County Combined Communications Center, located in the City of Yuma, was established in 1992 and is believed to be the first communication center in Colorado established to serve two counties. The center was created in order to capitalize on efficiencies that could be created by combining the resources of a number of small communities that would be unable to otherwise effectively operate and staff a state-of-the-art public safety communications center. The center is governed by a 911 Authority Board as well as an 11-member Board of Directors. An agreement is in place with the City of Yuma to house the communication center in the lower level of the Yuma Police Department. The center is managed by a director who reports directly to the board. The center serves as both the public safety answering point (PSAP) and dispatch center for all public safety agencies based in the area. The communications center receives approximately 80,000 phone calls per year for various emergency services that result in 23,500 responses by law, fire or EMS units. The center has four dispatch stations and an adjoining space that can be used as an Emergency Operations Center.

The center has a computer-aided dispatch system and is staffed by at least two dispatchers 24/7. All dispatchers are certified to provide Emergency Medical Dispatch (EMD) services and are trained in incident management. The center dispatches for four law enforcement agencies, 15 fire departments and five ambulance services that cover an approximately 5,500 square mile area with an estimated total population of 15,000.

Analysis of Washington County EMS System Elements

Prior to and during the consultative team visiting the county, key participants from the countywide EMS response system and local health care facilities were asked to complete a survey rating their current assessment of the EMS services and relationships in the county. The results from the various components of the survey are provided throughout this section of the report. Please note this survey was not designed as a scientific instrument and should be considered a subjective assessment of the current EMS system.

System Finance

System Finance Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree													
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average	
The EMS System is adequately funded	5	3	1	5	5	3	0	0	0	1	2	3.78	
The local EMS is sustainable over the long term	3	4	2	2	7	4	1	0	0	1	1	4.21	
The public is willing to support EMS funding needs	0	0	2	2	5	4	3	3	1	0	5	5.85	
Ambulance rates are reasonable	0	0	1	1	3	2	5	3	2	4	3	7.19	

Washington County Ambulance Service (WCAS) operates on a budget provided by the Board of County Commissioners with revenues received through a sales tax and billing for services. These sources provide acceptable funding for the system as currently structured, but are likely not adequate for future system needs. The state EMS grant program has also been accessed to provide additional funding for capital equipment needs over time.

Prior to 2006, funding for the WCAS was provided through the Washington County General Fund. In 2006 a 1.5 percent sales tax was passed by a small majority of voters to support health care services provided by the county. It is estimated this tax will generate approximately \$400,000 in 2013. Revenues generated from this tax are currently divided between WCAS, the Washington County Clinic and the Washington County Nursing Home. None of this revenue is currently being utilized to support the operation of the South Y-W Ambulance Service.

Considering the multiple demands on this revenue, the tax does not provide WCAS or South Y-W Ambulance a substantial or particularly consistent funding base. The amount of sales tax collection fluctuates from year to year due to changes in the overall economy. Additionally, the limited number of commercial businesses within Washington County has a significant impact on the overall effectiveness of the sales tax. Concerns were also expressed from many segments of the community that the then-proposed sales tax may have been presented to the voters as funding for the ambulance service only, not also as funding for the nursing home and clinic. Many commenters also believed that the passage of the sales tax was the result of community support for WCAS.

According to Colorado Department of Revenue and Washington County budget data, Washington sales tax receipts have been fairly consistent over the past three years, but have fluctuated in the \$400,000 – \$500,000 range. The overall division of sales tax funding is roughly as follows:

Organization	2013 Budget	Fees Collected	Sales Tax Portion
Washington County Nursing Home*	\$144,000	\$90,000	\$54,000
Washington County Clinic	\$431,000	\$236,000	\$195,000
Washington County Ambulance Service	\$321,000	\$122,000	\$199,000
Washington County Administration	\$15,000	\$0	\$15,000
South Y-W Ambulance Service	\$24,000	\$24,000	\$0
Total	\$935,000	\$470,000	\$463,000

**The majority of nursing home revenues and expenses are accounted for outside of the Washington County Health Care Operations Fund in a separate nursing home fund.*

Colorado Demography Office data indicates the population over age 60 comprised approximately 27 percent of the overall population of Washington County. This population segment increased by 9 percent between 2000 and 2010 and is expected to increase another 17 percent by 2030 when it will comprise 33 percent of the total population of the county. As a result, an increasing number of ambulance patients will be covered by Medicare and potential revenues will likely decrease due to the lower rates paid by the Medicare program. Currently approximately 49 percent of transported patients are covered by Medicare. As this population grows, it is further expected that service demand will increase as payments will likely decrease.

The financial impact of Medicaid program payments is more uncertain due to the uncertainty of recent health care reform efforts at the federal and state level. The long term financial impact of ambulance service provided to jail inmates, often reimbursed at the very low Medicaid rates, is also unclear. WCAS also responds to many traffic crashes. As with most rural ambulance providers, previous changes to Colorado no fault insurance regulations have contributed to a decrease in billings received from such incidents. As of yet, it is also unclear if the increased insurance coverage requirements of the 2010 Affordable Care Act will improve ambulance and/or clinic revenues.

WCAS began utilizing an outside billing service in the fall of 2012. Previously, all billing and collection was handled by staff. Billing information is now uploaded to the billing contractor utilizing a secure connection. All payments are received directly by the ambulance service. The billing service charges a flat rate per invoice processed. While this appears to be an effective approach to billing and collections, a long term track record has yet to be established. Considering a significant reliance on ambulance billing revenue and previously detailed uncertainty regarding other funding streams, a major decrease in collections would be damaging to the ongoing financial stability of both WCAS and the South Y-W Ambulance Service.

Although a number of WCAS staff members are called “volunteers,” they are provided pay for being on call and paid a variable rate for responses. Total annual funding for the volunteer portion of the response system is approximately \$48,000 annually. Full-time staff salaries and benefits for WCAS are budgeted at \$157,000 for 2013. South Y-W Ambulance Service expends approximately \$4,300 annually on volunteer stipends.

The utilization of the state grant program has ensured timely upgrades to the fleet and the ambulances are equipped with appropriate medical equipment. Current financing, however, has not allowed for adequate facilities, particularly in Akron. The staff has shown great creativity in finding ways to store necessary supplies in the Akron station; however, there is no room for group training in the building and barely enough room for the two ambulances housed there. The limited size of the station necessitates the director working in the adjacent county courthouse. Ambulances stationed in other areas of the county are housed in fire department facilities.

Overall, WCAS and South Y-W Ambulance have been as successful with the very limited funding. It must be noted that the current funding system is well intentioned but likely inadequate for the current needs as well as future needs of the citizens of Washington County, especially considering demographic trends and increasing costs. In particular, there is insufficient revenue to provide for a robust EMS workforce and EMS adequate facilities in the Akron area. The local ambulance services do, however, practice a very conservative approach to spending that is clearly representative of the general approach to finances that was echoed throughout the community.

Public Access

Public Access Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree													
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average	
The public can easily access EMS services	0	0	0	0	1	1	2	3	7	9	1	8.78	
High quality medical instructions are provided to callers	0	0	0	0	0	1	1	7	8	3	5	8.55	
Sufficient EMS response is available quickly	1	0	1	3	3	2	6	2	4	2	2	6.54	
Inter-hospital / inter-facility ambulance transport is readily available when needed	1	2	1	2	2	1	3	3	4	0	7	5.95	

The 911 Public Safety Answering Point (PSAP) for Washington County is the Washington-Yuma Combined Communications Center located in Yuma. Two dispatchers maintain 24/7/365 coverage. Most community members and all review team members felt that access to EMS by the public is very good and that the WY Communications Center is an excellent facility with well-trained staff that all of the participating communities can be proud of.

The survey reflects high quality medical instructions are provided to callers to assist in an emergency until trained personnel arrives at the scene. This type of pre-arrival medical instruction services to callers is not typical in many small communities around the state and is to be commended. Part of the training to become a dispatcher at the center includes being certified in Emergency Medical Dispatch (EMD) and incident management principles.

The survey indicates a less than average perception of the ability to provide a sufficient EMS response quickly. This is likely due to the distances the ambulance has to travel to the scene and difficulties with recruiting and retaining EMTs, particularly in population centers such as Akron. EMS personnel carry digital trunked radios (DTR) radios that receive pages from the communications center. Ambulance response is a combination of scheduled and unscheduled full-time and volunteer staff. Fire departments also respond on many EMS calls to provide assistance as needed. Overall, this level of response has provided adequate response considering the geographic and demographic conditions.

Currently, inter-facility transport is not a service routinely provided by either the Washington County or South Y-W Ambulance Services as neither service area contains a hospital or other facility providing emergency medical care. However, WCAS has historically assisted with inter-facility transport from hospitals located outside of Washington County when requested. WCAS handled a number of transports from the Sterling Regional Medical Center during the transition of ambulance services in Logan County a few years ago. Considering that WCAS is routinely staffed by paramedic level EMS providers, opportunity to participate in additional inter-facility transport work would be possible.

Integration of Health Services

System Integration Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
Various elements of the EMS and trauma care system are coordinated	0	0	0	0	3	2	1	8	8	1	3	7.83
EMS is well connected to the overall health care system	1	0	0	1	1	2	6	4	6	3	2	7.50
Public safety agencies cooperate effectively	0	1	0	0	1	1	1	9	6	4	3	8.09

Close cooperation between emergency response agencies was noted throughout Washington County. As is typical for small communities, large incidents require the participation of multiple agencies and many responders are frequently affiliated with two or more response organizations. Coordination between EMS services is accomplished through formal mutual aid agreements and informal, often long-standing, personal relationships. Two ambulance services regularly provide EMS response in Washington County. A total of five fire protection districts provide EMS related response services including response to traffic crashes, requests for medical first response and assistance to ambulance crews when requested. Washington County Sheriff's Office personnel will respond to EMS incidents as staffing and location permits. In a multiagency EMS response, the ambulance service is the lead medical agency. The first law enforcement officer on scene or fire district command will assume Incident Command (IC) for incidents requiring implementation of an incident command system (ICS) as required. For a significant multi-agency incident Washington County, the emergency manager will assist with or assume incident command functions. The Washington County Clinic and the Akron Clinic do not routinely participate in emergency care, but do interact with WCAS to a limited extent regarding emergency and non-emergency transfers and overall community health services.

The integration of EMS services with local healthcare and public health, specifically the local health care clinic, is somewhat disjointed. There appear to be no written agreements, protocols or established procedures that define the relationship between WCAS and the Washington County or Akron clinics. WCAS full-time staff recently began assisting in the clinic on an intermittent basis. However, the lack of coordination between the WCAS medical director and the clinic has raised concerns about how EMS providers should appropriately function in the clinic setting. It was believed, however, that if these coordination issues could be resolved, a greater EMS – clinic partnership would be of value to the community.

It should also be noted that services provided by the Washington County Clinic are in direct competition with the Akron Clinic operated by the Yuma District Hospital. This fragmentation of a small local health care market is problematic because it increases the overall operating costs of both clinics while reducing the revenue opportunity of each. Use of WCAS to assist with clinic care is also made more difficult by this competitive environment.

A County EMS Council was established by the Board of County Commissioners with adoption of a county EMS resolution in 1991, but is not currently active. WCAS does participate in the Northeast Colorado RETAC and the WCAS director actively participates in regional and statewide EMS organizations.

Legislation and Regulation

Legislation and Regulation Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree													
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average	
The County EMS Resolution provides a solid foundation for the EMS system	0	0	0	0	5	1	1	4	5	1	8	7.35	
EMS organizations are in compliance with all applicable regulations	0	0	0	1	2	0	2	4	6	7	3	8.36	
All participants in the EMS and trauma care system understand their role	1	1	0	1	1	3	5	6	3	3	1	7.08	
The EMS system is accountable to the public for it's performance	1	0	0	0	1	3	2	8	4	5	1	7.83	

The Washington County Board of County Commissioners (BOCC) resolution 1991-15 provides for the licensing and permitting of ambulance services in Washington County as well as establishing a County EMS Council. The resolution states that an application for ambulance licensure shall be submitted through the Washington County Ambulance director to the Board of County Commissioners.

The resolution specifies minimum regulatory requirements defined in 6 CCR 1015-3, Chapter Four. Washington County does not currently impose any additional requirements beyond the statewide minimum standards. The resolution also does not address provisions or requirements for a ground critical care transport system. The county resolution was adopted in 1991 and is somewhat outdated as far as the use of today's terminology.

County involvement in the EMS system appears to be limited to licensing of services and providing the venue for dealing with complaints regarding the ambulance service. The resolution defines a standard hearing process for complaints.

All Washington County-owned ambulances are licensed and inspected per the county resolution. However, South Y-W Ambulances are not licensed in Washington County. South Y-W ambulances do, however, notify the director when they are responding to a call in Washington County. The Washington County ambulances are inspected monthly by one of the full time staff. The ambulances in the outlying areas are rotated though Akron for inventory and maintenance checks. Narcotic control is handled by the director. Maintenance and inspections that are above the capabilities of the staff are outsourced to two local repair shops in Akron.

The County EMS Council did function for several years after the resolution, but is not currently a functioning entity. The resolution states that the EMS council is to advise the Board of County Commissioners regarding treatment, transportation, training of EMS personnel, communications, documentation systems and appropriation of monies received from state and federal funds. The resolution also states the council will review the resolution yearly, and that recommendations for changes will be given to the board for approval.

Medical Direction

Medical Direction Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
The Medical Director(s) participate actively in the system	4	0	1	2	1	2	1	4	2	0	8	5.24
The Medical Director(s) regularly monitor clinical performance	2	1	0	1	2	1	1	5	1	0	11	5.71
The Medical Director is consulted on EMS and trauma care system issues	3	1	0	0	2	1	1	5	4	1	7	6.33

Dr. John “Jack” Collins serves as the medical director for the WCAS and also provides medical direction to the Morgan County Ambulance Service. Dr. Collins has been active in EMS for more than 30 years. He completed his general surgery residency at the University of Colorado in 1974 and established a surgical practice in Fort Morgan in 1978. His primary surgical practice has been relocated to Fort Collins. Dr. Collins continues to practice one day a week at East Morgan County Hospital. He is currently the trauma service director at Poudre Valley Hospital in Fort Collins. Dr. Collins reports active involvement with the Northeast Colorado RETAC and participates in the RETAC Physician Advisory Board (NEPAB). Dr. Collins also collaborates on EMS clinical care and quality issues with the Dr. David Farstad, medical director for Poudre Valley Hospital EMS system and an emergency physician at Poudre Valley Hospital in Fort Collins.

Dr. Collins holds quarterly EMS meetings for Morgan County Ambulance Service; however, interaction with the Washington County Ambulance Service is only held on an informal basis as needed. His primary contact with WCAS is through the director, who keeps him apprised of EMS issues, protocol refinements needed and quality improvement concerns. Both Dr. Collins and WCAS administration members report active and ongoing medical director involvement in both protocol development and quality assurance issues. Dr. Collins reports the WCAS to be very receptive to protocol and quality assurance direction. Quality issues are brought to his attention through the director of WCAS or through casual interaction with the hospital staff. No formal mechanism currently exists for local emergency departments to direct clinical concerns directly to the WCAS medical director nor is there currently a formalized quality assurance process.

Dr. Collins stated he was impressed with the professional manner in which WCAS operates and that he is comfortable with the relationship due to the efforts of WCAS administration to keep him apprised of issues. He has also worked with one of the full-time paramedics to develop a more in-depth quality assurance program that recently received state grant funding.

Dr. Collins is a regular instructor and teaches approximately one time a year for the Morgan Community College EMS program. He regularly teaches the trauma modules for the EMT and EMT-Intermediate programs. He is not currently involved in regular continuing education with WCAS. He is aware, however, of the yearly trauma symposium conducted by Colorado Plains Medical Center but was unaware of any additional hospital-sponsored CE directed to EMS.

A number of individual EMS providers within WCAS, however, have reported not having the opportunity to meet or regularly interact with Dr. Collins. Dr. Collins does not receive any compensation for his service to WCAS. He is further concerned about the future of WCAS,

particularly in regards to ongoing volunteerism and succession planning for the medical director and the paramedic positions. While his involvement may be somewhat peripheral with field providers, it appears the link to WCAS administration is strong.

Currently, there is little use of online medical control or direct consultation with physicians by phone or radio during ambulance responses or situations where ambulance treatment is refused by a patient. There is also no procedure to identify which hospital in the area should be contacted if consultation was needed. This is further complicated by the lack of in-house 24/7 physician coverage at many facilities. Additionally, no local hospitals reported having copies of EMS protocols available for reference and no method is available to record consultation calls for quality review purposes. As such, this is a potential weakness in the system.

Due to time constraints of the review, the team was unable to meet with Dr. Lindsey Paulson, medical director for the South Y-W Ambulance Service. Dr. Paulson is board certified in family medicine and practices in Wray.

Human Resources

Human Resources Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
Our community has adequate numbers of EMS providers	7	5	5	2	1	2	2	1	0	0	1	3.16
Adequate numbers of EMS response units are available	2	0	1	1	0	2	3	7	2	6	2	7.33
EMS Providers are held in high regard by the community	0	0	2	0	1	1	2	5	7	7	1	8.16
People want to work or volunteer for EMS organizations	2	4	7	1	4	3	1	0	2	0	2	4.08
EMS providers are overworked	0	0	3	1	2	1	2	2	6	8	1	7.72
EMS providers have a high turnover rate	0	2	1	0	11	1	4	0	1	3	3	5.87

The most recent agency profile data indicates that the Washington County Ambulance Service (WCAS) has 16 active providers including three full-time paramedics, one volunteer EMT-Intermediate and 12 volunteer EMTs. South Y-W Ambulance Service lists nine active providers including three EMT-Intermediates and six EMTs. Both services also utilize firefighters with emergency medical responder (EMR) or first aid and CPR training to assist with responses or to drive ambulance vehicles as needed. Countywide, it is estimated that approximately 10 firefighters assist with some regularity in this capacity.

On a per capita basis, approximately 1 in 135 local residents participate in EMS response. This compares to about 1 in 305 residents statewide. Despite this impressive participation rate, it was universally thought by most EMS stakeholders that additional EMS responders are needed. It was estimated by stakeholders that an additional three or four certified EMS providers on both the northern and southern portions of the WCAS service area and an equivalent number in the SYWAS response would be appropriate. While the current number of responders are able to meet response demands, this often comes at the expense of excessive amounts of on-call time for unpaid volunteers. There is also a regular need for callers to wait for an ambulance response from more distant locations due to the lack of available responders. This is currently a problem in the Akron and Anton areas. The review team heard a number of comments regarding the current situation where Akron calls often receive a response from the Otis area due to staffing limitations in Akron.

There is no formal recruitment and retention program in place with either WCAS or SYWAS. While both agencies are willing to take on more volunteers, a decreasing overall population, increasing overall age and the significant burden of initial training requirements were thought to be barriers to recruiting new members. Many stakeholders also felt the increasing trend of absentee property owners using transient or commuter farm and ranch hands was not helpful to recruiting efforts.

While WCAS has completed a strategic plan, this effort is unique among county departments and other response agencies as best the review team could determine. A comprehensive recruitment and retention planning process may be very helpful to address future barriers in this area. A larger training room in Akron and more storage room would help provide a more

inviting and functional place for training and meetings, which would likely assist with clinical education, operational efficiency and recruitment and retention efforts.

The current volunteer compensation system at WCAS provides a variable incentive for weekday and weekend on-call time. A premium is paid for volunteers who agree to be scheduled on weekend shifts of \$125 per day for a Friday, Saturday or Sunday shift. An honor system is used for weekday and outlying area responders to retroactively report their availability without being scheduled. Available responders are compensated approximately \$1 per hour to have been available. Volunteer responders are also paid a sliding scale stipend of \$20 - \$35 per response. South Y-W Ambulance Service does not have an on-call pay structure and relies on volunteers being available when needed. SYWAS pays a per-call stipend of \$50 for ambulances responses.

While a legal review of these policies was not conducted by the review team, it was believed that on-call and stipend policies were in compliance with wage and hour laws as well as other requirements of the Fair Labor Standards Act and state labor laws. WCAS had undergone an investigation regarding these policies within the last decade. However, considering the amount of funds devoted to volunteer coverage, a review of these policies for compliance and effectiveness would be appropriate.

Clinical Care

Clinical Care Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
The EMS system has good clinical protocols	0	0	0	0	1	1	2	5	8	4	4	8.43
EMS protocols are coordinated between organizations	1	0	1	1	1	1	4	8	4	1	3	7.14
EMS and trauma care providers are well trained	0	0	0	0	1	0	5	6	7	7	0	8.50
EMS and trauma care providers are experienced	0	0	0	1	2	0	4	5	8	6	0	8.23
Capability exists to provide critical care inter-hospital transports	7	0	0	0	0	0	4	4	3	2	6	5.70

The Washington County Ambulance Service (WCAS) owns and operates five ambulances with the opportunity for a high percentage of calls to be answered by advanced life support (ALS) providers. Due to the geography of Washington County, the three full time paramedics are primarily located in the northern portion of the county and may or may not be able to assist with calls in the southern portion of the county in a timely manner. As a result, calls in the southern area of the county are more likely to be staffed with EMT-Intermediate and/or EMT level volunteers. Local fire departments do not routinely respond with the ambulance on medical calls. A limited number of fire department volunteers have medical and/or CPR training; however, many of those that do are likely already affiliated with WCAS or the South Y-W Ambulance Service. As with many volunteer emergency services systems, the majority of medical responses fall to a minority of volunteers who are certified as EMS providers. This places a significant responsibility on individual EMS providers to care for patients over an extended period of time where they are unlikely to have additional assistance at hand.

The hospital closure in 1991 significantly impacted the transport and total call time for the WCAS. Due to time and distance, a similar issue of extended call times has always been the case for SYWAS. It was clear, however, that the community has high regard for the service provided by the local ambulance services and that the receiving hospitals described the care delivered by both services as superior. Response times to most areas appear to be acceptable considering local geography and distances. The one exception appears to be the current situation where Akron, the largest population center, frequently receives an ambulance response from Otis due to staffing limitations. Destination decisions were determined to be reasonable and were usually fairly straightforward considering the closest hospital and medical services available. ALS intercept does not commonly occur, but is utilized when needed, particularly with calls in the southern portion of the county. Use of helicopter air ambulance services for scene response is usually not practical due to the excessive response time and need for refueling.

Most EMS providers interviewed understood the parameters of EMS provider scope of practice and the utility of practice guidelines offered through written protocols. However, few could identify a specific written protocol for their service. Both the service director and medical director indicate regular protocol additions and updates; however, these did not appear to be disseminated adequately throughout the EMS system. None of the receiving facilities appeared to have a reference copy of the protocol, but believed that "they all operate under the same protocol." The protocols reviewed appeared to be reasonably conservative with no

skills or medications authorized through waivers of scope of practice (i.e. rapid sequence intubation, surgical cricothyrotomy, critical care medications, etc.) Equipment on the ambulance vehicles is current and state of the art (i.e. monitors/defibrillators, interosseous drills, end-tidal carbon dioxide monitoring and continuous positive airway pressure treatment capability). Ongoing protocol development was also underway with highlighted emphasis on key performance indicators and protocol compliance.

The strength and backbone of the Washington County emergency system revolves around individuals in the community stepping up when need presents itself. Nowhere was this more apparent than in the WCAS assisting the Washington County Clinic when the clinic recently experienced a staffing shortage. EMS providers from WCAS were instrumental in assisting the nurse practitioner and remaining staff in continuing the operation of this clinic in the absence of clinic nurses. The involvement of WCAS in this capacity was vital in fulfilling the mission of the clinic and in meeting the medical care needs of the community.

There are concerns, however, regarding the appropriate role, training and oversight of EMS providers in the clinic setting that has not been fully examined. Overall, the primary nurse practitioner in the Washington County Clinic was unaware of the particular requirements imposed upon EMS providers by a variety of regulations. Understanding that EMS providers are not trained in the provision of primary care services, appropriate training and oversight of EMS providers is essential to ensure they can effectively and safely treat patients in this non-traditional EMS environment. In particular, it should be understood that EMS providers acting in roles outside of prehospital care are no longer being supervised by an EMS medical director, and that the licensed health care providers in the clinic are responsible to adequately train and supervise EMS providers to perform in that setting. It was felt, however, that if these concerns could be adequately addressed, an ongoing role for WCAS staff in the clinic environment would be very useful.

Education Systems

Education Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
New members have access to EMS Training when needed	0	0	1	2	1	3	3	7	4	3	2	7.38
Local EMS education is of high quality	0	0	1	1	2	0	2	3	11	3	2	8.00
EMS and trauma care providers have regular access to continuing education	0	0	1	0	2	2	1	10	5	4	1	7.88
Leaders in the EMS system are well trained in management functions	1	0	0	0	2	0	3	5	8	3	4	7.91
Leaders in the EMS system are effective	1	0	0	1	1	0	2	7	8	3	3	7.91

Initial training for EMS providers in Washington County is conducted primarily through either Morgan Community College (MCC) located in Fort Morgan or Northeastern Junior College (NJC) located in Sterling. The colleges use faculty members available in Washington County who participate with local EMS services. These instructors are active clinicians who provide emergency medical responder (EMR) and EMT courses at various sites in Washington County. EMT-Intermediate courses are usually taught at the main campus locations in Fort Morgan or Sterling. MCC and NJC have a part of their service areas in Washington County. Since different college service areas exist, classes can only be conducted within the service area of the college that is offering the class. This can place a hardship on students by requiring some of the students to travel additional distances to attend classes. For instance, Akron is in MCC's service area and Otis is in NJC's service area. An EMT class is planned for this summer through NJC, and it will have to be offered in their service area near Otis despite a current lack of providers in Akron. A significant barrier to additional EMS classes is a minimum enrollment requirement of eight students in order to conduct EMS classes. The small communities are often fortunate to have a handful of people willing to take a class at any given time. The travel time of an hour or more between communities is also a substantial barrier to attendance even if joint classes could be coordinated. Additionally, the required clinical rotations for these classes require students to travel to hospitals in Greeley or Denver. Once coursework is completed, applicants for state EMS provider certification are required to travel to complete computer-based certification testing through the National Registry of EMTs. The closest testing sites are located in Sterling, Greeley, Greenwood Village, Westminster and Longmont. Overall, it is thought that this cumulative need for travel to complete initial training is more than many potential volunteers are willing to undertake. Paramedic level initial training is not available locally and interested candidates are expected to travel to the Front Range. Neither WCAS nor South Y-W Ambulance Service, however, has a history of sending volunteers to paramedic training. By contrast, providers at this level are usually hired from the outside.

The majority of continuing EMS education is provided by the full-time paramedics who provide EMS training for the entire county as part of their responsibilities working as paid responders. The current educators are very knowledgeable and enthusiastic in traveling to all parts of the county to conduct classes. However, adding more instructors to the local cadre would be useful in adding diversity and additional interest to the continuing education program. Classes taught locally include CPR, Advanced Cardiac Life Support, Pediatric

Advanced Life Support and International Trauma Life Support. Continuing education credits are also available through NJC or MCC; however, neither college regularly or directly provides CE offerings. Throughout the year there are a variety of educational opportunities offered in and near Washington County through the Northeast Colorado RETAC and the adjoining Plains to Peaks RETAC.

The Northeast Colorado RETAC does offer a paramedic refresher annually at no cost to member agencies. Due to the size of the RETAC region, travel to refresher classes can be significant. The availability of online education, however, has decreased the amount of travel required in recent years. The RETAC also helps to fund a number of continuing education offerings throughout the region. Some of the responders feel the county needs to offer monthly EMS training that could be delivered in various parts of the county, not just the Akron and Otis areas in the northern portion of the county. This was apparently done to some extent a number of years ago.

The East Morgan County Hospital offers a one day emergency care symposium annually in November. The Yuma Hospital provides quarterly training open to EMS providers. Colorado Plains Medical Center in Fort Morgan offers a multi-day EMS mini-conference on a yearly basis.

The Washington County emergency manager provides incident command system (ICS) training and other types of training that can be beneficial to the EMS community. He recently sponsored a technician-level hazardous materials response course that was attended by a number of EMS providers. The emergency management office does not currently offer any EMS specific training.

Most of the local fire departments are happy to participate in EMS response, but feel that EMT level training would go above and beyond their needs. There has been interest, however, in emergency medical responder (EMR) training for non-transport fire personnel. An EMR class is currently being planned that will be offered locally by WCAS employees. Most fire departments are also uninterested in EMS provider certifications due to the requirements for ongoing continuing education in addition to those already required for volunteers to maintain fire department membership and/or pension eligibility. As such, the EMR program may provide ongoing utility for local fire departments.

Communications

Communications Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
Local cell phone coverage is adequate	0	0	4	2	3	0	4	6	2	2	3	6.48
EMS and trauma care organizations have good access to broadband internet service	0	0	0	2	2	0	3	5	4	2	7	7.50
Public safety agencies have an effective radio system	0	0	0	0	0	3	0	6	7	7	3	8.65

The Washington County Ambulance Service (WCAS) utilizes the statewide digital trunked radio (DTR) system for emergency communications and responder notification. Dispatch services are provided by the Washington-Yuma Combined Communications Center located in Yuma that serves all of Washington and Yuma counties. All WCAS responders are issued a portable radio. All ambulances are further equipped with DTR radios for access to the statewide system that is used coordination throughout the region. Due to the local geography, DTR coverage in the county is superior, especially in comparison to many other areas of the state. Wireless phone coverage was also thought to be sufficient, if spotty in some areas, by most local stakeholders.

The W-Y Combined Communications Center (WYCCC) was formed following a needs assessment initiated by Washington and Yuma counties in 1990-1991. Prior to the formation of the joint communications center, there were five separate dispatch centers serving the two counties. The center utilizes the statewide DTR system with a VHF radio system providing backup coverage throughout their service area. The full-time director oversees operations providing *Priority Medical Dispatch* emergency medical dispatching with a total of 10 full-time and three part-time employees. Under normal circumstances, one dispatcher is assigned to handle emergency calls for each county. In the event of a larger incident, the dispatchers are available to assist each other. The center has a radio bridge allowing communications with emergency services in neighboring Nebraska and Kansas. Due to the severe weather experienced in the region, the center works closely with National Weather Service. The WYCCC has the capability to make mass notification or "reverse 911" calls to notify residents of emergency situations. For incidents requiring an on-scene presence, there is a mobile communications van available.

The WY Combined Communications Center serves as a fine example of inter-governmental cooperation. There was universal praise for the services and professionalism of the communications center by all Washington County emergency response agencies participating in this assessment.

In addition to emergency communications, the National Telecommunications and Information Administration (NTIA), a subsidiary of the Federal Communications Commission (www.broadbandmap.gov), Washington County ranks 42nd amongst Colorado's 64 counties in broadband Internet availability with 94.2 percent of the population having access to wired or wireless broadband internet at speeds greater than 3 MBps through one of four internet service providers. Broadband services are currently in use at most governmental and health care locations within Washington County.

Information Systems

Information Systems Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
Transport EMS services collect and upload electronic patient care data to the state system	1	0	0	0	1	0	2	3	8	5	5	8.30
System performance data is regularly collected and analyzed	1	0	0	1	0	0	1	2	7	1	11	7.77
Information technology needs are being met within the EMS and trauma care system	1	0	1	0	1	1	1	3	5	0	11	7.00

Both the Washington County Ambulance Service (WCAS) and the South Y-W Ambulance Service (SYWAS) collect electronic EMS run data utilizing the ImageTrend Fieldbridge platform provided by the State of Colorado. As such, all providers in Washington County are currently compliant with EMS data reporting requirements.

The survey shows a high percentage from the community, and reviewers that don't know if the system performance data is regularly collected and analyzed, which is further addressed on the evaluation section of this report. There was also some concern that the overall information technology needs of local services may not being met, particularly as it relates mobile computer equipment.

Both the 800 MHz Digital Trunked Radio and VHF radio systems are being used, but no non-voice information is currently being transmitted over radio or cellular communications systems.

Evaluation

Evaluation Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
Each EMS organization has a defined and ongoing quality improvement program	1	1	0	0	1	1	2	6	6	1	7	7.37
Quality improvement findings are integrated into the EMS and trauma care system	1	1	0	0	1	0	4	6	5	1	7	7.32
Quality improvement activities are coordinated and communicated between services	1	1	0	1	0	2	7	1	3	1	9	6.65

Currently, evaluation of EMS care occurs through retrospective and mostly informal chart review by the full-time staff at the Washington County Ambulance Service. These same staff members are also present on most EMS runs. The medical director is involved in this review as needed. It was not clear that the South Y-W Ambulance Service had any formal mechanism for reviewing calls. Efforts are underway to develop a formal quality assurance program at WCAS including protocol compliance, benchmarking and key performance indicator tracking. No current data exists on the QA process, actions taken for problem resolution or tracking of recurrent trends. Outside facilities and co-response agencies currently do not participate in any EMS evaluation or quality improvement activities. It also appears there are no formal mechanisms for local EMS services to obtain and communicate patient follow up information from receiving hospitals. Furthermore, it did not appear that local facilities tracked incoming patients by EMS agency.

Public Education

Public Education Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
The public understands and supports the local EMS and trauma care system	1	0	1	1	1	5	5	4	1	3	4	6.77
Regular efforts are made to inform the public about EMS and trauma care	1	0	1	2	3	3	0	6	2	3	5	6.71
Regular efforts are made to inform policy makers about EMS and trauma care	1	0	0	0	4	3	4	3	3	2	6	6.90

Stakeholders in the Washington County EMS system participate in a limited number of public education and outreach activities. Each agency provides a fairly limited amount of public education with most efforts focusing on community events and recruitment of volunteer personnel. Both ambulance services also provide standby services to local school-based sports and other community events when requested. The Washington County Clinic and sheriff's office participate in some education efforts relating to the proper use of 911, public CPR and first aid training.

No formal or regular efforts are in place to communicate with citizens and elected officials concerning the organizations or issues of EMS and trauma care. Considering that public funding for health care services is being used and that the authorization of that tax funding was controversial, efforts to describe the ongoing value of EMS to the community would likely be useful.

Yuma District Hospital has hosted health fairs with the latest in 2011 attracting 863 participants. These fairs provided on-site flu vaccinations to 16 different businesses and schools, offered a fall-prevention program and a concussion prevention and treatment education to area school coaches.

Currently some informal efforts are also made to recruit new volunteer members at local high schools. This may be an ongoing area of opportunity to develop new members that should be further explored.

Mass Casualty

Mass Casualty Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree													
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average	
EMS Agencies and facilities have written mass casualty response plans	0	0	1	1	3	0	1	2	10	4	4	7.95	
MCI plans are regularly tested by all organizations	0	0	1	0	4	3	2	2	7	2	5	7.33	
EMS and trauma care leaders are aware of local and state emergency management efforts and programs	0	0	0	0	2	1	0	3	10	3	7	8.42	

The Washington County emergency manager takes an active role in not only managing incidents but also responding as a firefighter and EMT-Intermediate. The emergency manager updates and maintains the local emergency operations plan (LEOP) that contains a mass casualty incident (MCI) management section. The emergency manager is also responsible for evacuations that may be required and is responsible for operation of the emergency operations center (EOC) located in Yuma at the W-Y Combined Communications Center. The county emergency manager is the only staff member of the office and operates on an annual budget of \$70,770.

Disaster exercises are scheduled at least twice per year with mass casualty incidents being a frequent focus. No actual mass casualty events have taken place recently. Participation in exercises, however, is often somewhat limited as paid staff may not be available evenings and weekends and volunteer members have difficulty attending weekday events. Facilitating interaction between the northern and southern ends of the county is also difficult due to the distances involved. Despite these constraints, written mutual aid agreements exist between agencies and are in the process of being updated. In the overall opinion of most stakeholders, cooperation between agencies is very good.

Mass casualty destination guidelines have not been established for transported patients and while the hospitals have EM System, the dispatch center does not use it so the destination decisions are made by the EMS personnel on scene depending on location of incident. In a large scale incident, this decision may be made without the benefit of knowing what hospitals are able to accept patients, especially if communications from the scene are unreliable.

Prevention

Prevention Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
An analysis of local injury and illness data is performed regularly	2	1	0	1	4	0	2	2	1	1	12	5.50
Prevention programs are developed based on local needs	2	1	0	1	1	1	4	3	2	1	10	6.19
Prevention programs are regularly offered to the community	2	2	0	1	2	4	1	2	3	1	7	5.78

Washington County has a rather robust injury prevention program. Over the past several years, Washington County has taken advantage of injury prevention funds made available through the NCRETAC. The RETAC offers each member county up to \$1,800 for injury prevention education per year. The funds have been used to bring in the Children's Hospital Colorado "Jungle Mobile" interactive mobile injury lab to both Akron and Otis. Several EMS and 911 related emergency booklets and handouts have been distributed at all local schools and daycare providers. The county has also purchased the "CPR Anytime" CPR training program for agencies that deal with foster families as well as with local businesses. Classes include prize drawings for CPR class participants. Materials are made available in both English and Spanish versions. As noted by the scoring in this area, there is a sense that more opportunities to provide prevention education may exist.

Research

Research Please rate the following on a scale of 1 - 10. 10 = Strongly Agree 1 = Strongly Disagree												
Answer Options	1	2	3	4	5	6	7	8	9	10	Don't Know	Rating Average
Evolving EMS and trauma care research is incorporated in the local EMS system	0	1	2	0	2	2	5	5	0	1	6	6.39
Medical Directors and Leaders are aware of the latest EMS and trauma care research	0	1	0	0	1	1	3	6	3	2	7	7.59
Local EMS and trauma care organizations regularly participate in system research	1	1	1	1	0	4	2	1	0	1	12	5.50

No formal pre-hospital research is currently being conducted within the Washington County EMS system. The director is knowledgeable about his system and standards of care. He believes that the limited call volume limits the utility and reliability of data. No concerns about the emergency care provided by ambulance responders were reported by destination hospitals during this assessment. Opportunities for research may present themselves in the future, but given the low volume of the system it may be better to focus on operational and financial needs first.

The Washington County Ambulance Service (WCAS) is the only county department that has completed a comprehensive strategic plan. Utilization of the state grant program to provide for this assessment team and resulting recommendations is a continuation of the long range planning system in place at WCAS.

Overall Effectiveness

In your opinion, how effective is the overall local EMS system in meeting the needs of the community with 1 being non-functional and 10 being ideal?											
Answer Options	1	2	3	4	5	6	7	8	9	10	Rating Average
Rating	0	0	0	0	3	3	3	9	4	3	7.68

The overall opinion of local stakeholders and reviewers is that the Washington EMS system is effective but in need of some improvements. The review team would also agree that the system is currently functional and reasonably well supported financially in comparison to other publicly operated EMS systems in Colorado. The South Y-W Ambulance service is not a well-recognized or supported participant in the local EMS system, nor are overall health care services well integrated within the county government. It is clear, however, that many dedicated individuals have contributed to the success of the system. Opportunities exist to improve a number of facets of the system and additional resources will be required to make those improvements.

Washington County EMS – A Vision

At 3 p.m. on Tuesday June 19, 2018, Paramedic Jim Miller arrives at the recently-completed Washington County Ambulance Service (WCAS) headquarters in Akron. Jim was hired about a year ago and lives in nearby Morgan County and will be staying at the living quarters built a year ago at the new headquarters. WCAS has four full-time employees including the director who works weekdays and three full-time paramedics who work rotating 24 hour shifts. Jim is arriving early for his Wednesday shift in order to cover for another paramedic who is travelling to the Greeley area to coach her daughter's school softball game tonight. Jim checks in on duty with the W-Y Combined Communications Center with the staffing app on his smartphone. He also notes that the two volunteers signed up for the evening shift are located in Anton and Otis. A quick swipe of his phone reveals that the South Y-W Ambulance Service also has a full crew available in Kirk and Yuma.

After checking the advanced life support gear in his quick response vehicle, Paramedic Miller text messages the volunteers on duty to be prepared to pick up the closest ambulance in the event of a call. Once the beginning-of-shift tasks are complete, Jim puts the finishing touches on his continuing education presentation for this evening that will be held in Cope. As he programs the final elements of a related practical scenario into the high fidelity simulation mannequin the county acquired with the help of a state grant last year, a dispatch goes out for an auto accident involving a tractor trailer and a pickup truck on U.S. Highway 36 east of Anton. While the on-duty volunteer responds to the Anton ambulance, and additional Anton area volunteer comes up on the radio to assist. Paramedic Miller directs both members to proceed to the Anton station and respond to the call while he begins his response from Akron. Additional reports indicate the pickup truck may have multiple occupants, so South Y-W Ambulance is also dispatched to assist. While enroute to the call, the dispatch center advises an additional crew member has signed on as available in Akron who will meet up with the other on-duty volunteer to provide residual coverage.

As units begin to arrive on scene, it becomes apparent that the crash was not particularly violent and that two of the pickup truck occupants have only minor injuries. One female patient, however, is a diabetic with a heart condition so Paramedic Miller continues his response to provide a supplemental assessment. He notices the female patient has a slightly irregular heart rhythm, but is otherwise uninjured. Since the patient is unaware of a cardiac rhythm disturbance, Paramedic Miller can quickly review her medical record on her smartphone for additional medical history, consult with the on-duty ED physician in Fort Morgan and schedule her for primary care appointment at the Washington County Clinic the next day, when he will be there assisting the clinic practitioner in the morning. Due to a series of ongoing relationships, the clinic can further arrange for a telemedicine cardiology consult if needed.

By 6:30 p.m. all the units return to service and the continuing education session begins at the Cope Fire Station with 10 members of WCAS and SYWAS in attendance. After a successful education session and a quiet night, Paramedic Miller will be joined by his three full-time colleagues, the SYWAS ambulance director and the medical directors for both services for the quarterly quality improvement meeting. On the agenda today is the update of three protocols and five cases to review selected through pre-established review filters.

Summary of Recommendations

Type	Recommendation
Short-Term	Determine Service Areas and License All Ambulance Services
Short-Term	Improve Protocols, Quality Improvement and Oversight
Short-Term	Improve Responder Scheduling
Short-Term	Explore Additional Transport Revenue
Short-Term	Improve Volunteer Pay and Incentives
Short-Term	Improve Procurement Practices
Short-Term	Increase Paid Staffing Level
Medium-Term	Clearly Define EMS Roles Outside the Prehospital Environment
Medium-Term	Consider Quick Response ALS Unit
Medium-Term	Reintroduce Interagency Coordination Council
Medium-Term	Develop Recruitment and Training Plan
Medium-Term	Improve Clinic Collaboration
Medium-Term	Develop Facilities Strategy
Medium-Term	Improve Continuing Education Opportunities
Long-Term	Improve Collaboration and Integration of Health Services
Long-Term	Consider Health Services District
Long-Term	Develop Additional EMR Personnel System Wide
Long-Term	Consider School-Based EMT Program

Short-Term Recommendations (1 Year)

Determine Service Areas and License All Ambulance Services

The Washington County Ambulance Service is operated by the county government and serves a large portion of the county, including the major towns of Akron and Otis. The South Y-W Ambulance also services a significant portion of southeastern corner of the county including the unincorporated town of Cope. Areas in the northwestern part of the county, particularly along and north of Interstate 76 in the Hillrose area are served by ambulance services from Logan and Morgan counties. There is also a 240 square mile area east of Otis adjacent to the Yuma County border that is served by the City of Yuma Ambulance Service.

The team was interested to find that the response areas along Interstate 76 had apparently been determined at some point in the past by the Colorado State Patrol (CSP) and that response area determinations within Washington County had been assigned to response agencies from other counties without much input from the county government. A similar situation existed west of Yuma, where the City of Yuma had been assigned a response area in Washington County. Clearly, from a customer perspective, there is significant value in assigning response areas to the closest agency and in multi-jurisdictional cooperation on ambulance licensing. By contrast, current EMS funding models that rely heavily on patient transport revenue to provide operational funding can create tension when another agency is perceived to be taking calls and revenue from another jurisdiction. There is also significant efficiency in developing cooperative ambulance licensing systems that allow for agencies to operate in another jurisdiction. All of these concerns are in play within the Washington County EMS system. Additionally, it is unclear if all services responding within Washington County's borders are licensed by the county government.

The team recommends that the jurisdictions currently providing EMS response and transport within Washington County meet collectively with the Board of County Commissioners to determine if existing response areas are appropriate. It is further recommended that proximity to response assets be the primary determinant for the assignment of response areas. While there may be some limited amount of revenue that could be lost to services responding from adjoining jurisdictions, it is unlikely the total amount would be significant. If needed, the annual county licensing fee could be adjusted slightly to account for any economic impact neighboring jurisdictions impose on WCAS. Additionally, neighboring jurisdictions responding into Washington County might also agree to use WCAS assets for some long distance transfers in exchange for an operating license in Washington County. Finally, while the input of the communications centers and the Colorado State Patrol are of value in determining response areas, these agencies should not drive response area decisions that are within the purview of the county commissioners. Once these response areas are determined, Washington County should establish a process to license all services responding within the county that may or may not include reciprocal licensing arrangements with neighboring counties.

Improve Protocols, Quality Improvement and Oversight

It was clear to the review team that Washington County was fortunate to have a paramedic level response available almost universally with a number of staff members also trained at the EMT-Intermediate and EMT provider levels. It was clear there was a strong commitment on the part of providers throughout the system to provide high quality clinical care. The system also benefits from physician medical direction with a long standing commitment to the area. It was less clear, however, if agency medical directors took an active role with local response agencies on a regular basis. Additionally, while it was clear that the monitoring of clinical care was a priority of the system, the absence of a complete set of clinical care protocols was problematic.

Considering that EMS clinical care protocols are the foundation of care provided by EMS services, the review team strongly recommends a complete set of protocols be adopted and deployed throughout the system as soon as possible. This will allow providers to have a clear set of expectations, while also providing a baseline upon which evaluation and improvement of care can be accomplished. Ideally, the protocols used by all agencies responding in Washington County should be consistent on a countywide or perhaps even a regional basis. Currently there are a number of publicly available protocol templates available throughout Colorado, and it is recommended that local services in conjunction with their medical directors and local hospitals select a set that is well suited to the area's needs. Once a base set of protocols is selected, it would be a relatively minor task to adjust them for specific local needs. Once finalized, a regular program to train and test employees on protocol content should be developed. Additionally, protocols should be disseminated to all local hospitals, ideally with a corresponding quick reference guide for facility providers regarding allowed procedures and medications.

In addition to the deployment of protocols, the review team further recommends that efforts continue to develop a formalized quality improvement system that develops performance benchmarks, assures adherence to clinical guidelines and offers a structured opportunity to review and improve the clinical and operational performance of the system. An improved mechanism to report, track and resolve care issues and complaints should also be developed.

Finally, the team recommends that the EMS medical directors make an effort to meet and train with all members of both WCAS and SYWAS. EMS providers should also be aware of the clinical schedules of both Dr. Collins and Dr. Paulson. Considering they both practice locally in Brush and Wray respectively, providers should be afforded the opportunity to meet these supervising physicians and understand their role in directing EMS clinical care.

Improve Responder Scheduling

With the exception of a weekend scheduling system, the current responder scheduling system in use by WCAS is fairly informal. Full-time employees create a schedule mostly by mutual agreement based in 24 hour blocks. Volunteer responders are primarily utilized based by answering requests to respond within their area. A system does exist, however, to have responders report their availability retrospectively in order to receive a minimal on-call

payment. While there are no indications this system is being abused, the potential for abuse exists and there is little utility in a system that reports availability retrospectively. By contrast, the system is best served by scheduling systems that are aware of a responder's availability before a call occurs.

As a result, the team recommends that a universal sign-up-based scheduling system be created that can give WCAS leadership and the communications center a better sense of what response resources are available at a given point time. In addition to the full-time staff member on duty, the team believes having at least two additional responders continuously scheduled would be useful. Considering those individuals would not likely provide overall geographic coverage, it is also recommended that a robust per call stipend be paid to ensure additional responders who may be close to the call have a good incentive to respond from a closer location. This would reduce delays in assembling crews and/or allow for more distant resources to respond immediately to calls when nearby staffing resources were unavailable. Furthermore, the team recommends that full-time staff schedule themselves a number of weeks in advance and publish that schedule to the entire organization. This would allow all members to be aware of who the on-duty paramedic coordinator for the system is at any given time. It may also be of value to share WCAS schedules with other response agencies in and around the county. In addition to an on-duty schedule for each area, it would also be a good idea to maintain a list of individuals who may be available as back-up resources. This can be accomplished through paper or computerized systems, and could potentially also be managed by the communications center allowing staff to report on or off duty in real time. Regardless of the approach, an improvement in this system will provide significantly more response reliability than the current system of call and see who responds. The enhanced budget in Appendix A recommends a payment of an average of \$3 per hour for two volunteers to be scheduled year round (17,520 total hours). This number could be adjusted slightly to pay a premium for weekday or weekend coverage if needed.

Explore Additional Transport Revenue

Unlike a number of nearby services, the reasonably low call volume of the WCAS and the consistent availability of paramedics and other responders would allow WCAS to perform some long distance inter-facility transports. Unfortunately, there are currently no facilities in the county that regularly transfer patients to larger hospitals in the metropolitan areas of the state. A number of neighboring services, including Logan County, Morgan County and Yuma, however, regularly transfer patients. These transfers often produce a decent amount of additional revenue that can be used to support EMS operational and capital costs.

Provided a system could be developed to supplement existing staffing while also maintaining local response capability, the team strongly recommends that WCAS explore partnering with neighboring EMS jurisdictions to assist with long distance transports. While it is unlikely any of the adjoining services would want to give up a large portion of their transport revenues, it is likely they might be willing to utilize WCAS on a limited basis. There are currently a number of smaller systems across the state that have experimented with dividing transport responsibilities on a rotational basis or by assigning particular days of the week to various services. The review team believes that a modest increase in revenues could be obtained

through arrangements with other area services to provide some level of transport assistance. Provided this assistance was kept to an acceptable level, the team further believes a scheduling system could be developed and maintained to provide this additional service and estimates that 25 – 50 transports could be added annually to the system.

Improve Volunteer Pay and Incentives

WCAS pays competitive wages for full-time response staff. However, the on-call rate for WCAS volunteer responders, calculated retroactively, is about \$1 per hour. A slightly higher rate (\$125 per day) is paid for weekend coverage based on a current grant award and a per-call stipend of \$20 - \$35 is also paid for actual responses. While this system likely represents an evolution of what has been affordable and practical to the system over time, it is not structured particularly well to provide volunteers with an economic incentive to either remain available for long periods of time, nor does it provide a decent financial incentive to drop everything to respond to a call. It does, however, provide an incentive for volunteers to report availability during periods when there were no calls. As discussed earlier, there is no current incentive for volunteers to sign up ahead of time to be available for calls except for the grant-funded weekend program.

Considering this current lack of incentives engineered to benefit response capacity and scheduled service, the review team recommends the leadership and staff of WCAS work collectively to update the volunteer pay and incentive system. In particular, the WCAS team should consider paying a higher on-call rate only for volunteers who schedule themselves for dedicated blocks of time. Scheduled staff should then be given preference to respond when they are scheduled. Additionally, a higher stipend for actual response should be considered to provide a significant incentive for employees to both schedule themselves and to provide incentive to spontaneously make themselves available when scheduled providers are not nearby or if additional resources are needed. A bonus payment might also be considered to encourage two individuals in an area to sign up together to ensure a full crew is available for a particular ambulance. Full-time staff, while exempt from the on-call payments, would have a good sense of where they are needed to supplement response based on the time and location.

In addition to pay for scheduling and response, EMS services in the county may wish to further identify volunteer leadership roles, such as ambulance crew chiefs or training officers who could be given additional responsibilities and paid a stipend on a monthly or yearly basis to perform additional duties such as providing training, scheduling and coordinating local staff or maintaining outlying ambulance vehicles.

Improve Procurement Practices

The Washington County Government currently owns three health care services including the ambulance service, clinic and nursing home. At this point there does not appear to be any unified administration of these three entities within county government, nor does it appear that any common systems exists across them. The review team believes that a number of economies of scale could be gained by sharing administration, systems and resources across these organizations. As an initial step, an analysis of a shared procurement system for

medical supplies and equipment should be explored, as well as the potential to combine service contracts for medical equipment and other health related services. While there is likely limited overlap regarding a number of medical supplies, the use of a single or limited number of vendors for many services such as oxygen and lab supplies could reduce overall costs. Contracts for medical equipment maintenance could also be explored. In addition to these economies, the county may also benefit from access to purchasing cooperatives such as those available through the Emergency Medical Services Association of Colorado (EMSAC) or from access to state bid pricing through the Colorado Department of Personnel and Administration (DPA).

Increase Paid Staffing Level

WCAS currently maintains a full-time staff of three paramedics, including a service director, to maintain operations and ensure paramedic availability to the system. While this level of staffing represents a wise investment on behalf the county, the review team believes that increasing the paid staffing level to four individuals would significantly enhance the system, provide for additional reliability and improve the retention of both full-time and volunteer staff members.

In particular, the team recommends maintaining a staff of three paramedics plus an administrator trained at the EMT level or higher. This staffing level would allow for paramedics to work an average of 10 days per month including a regular rotation of weekends and holidays. An administrator, based on training level, could serve primarily as a second ambulance crew member during business hours or could be used to cover vacations and sick calls without placing an undue burden on the remaining full time staff members. This would accomplish a number of objectives including improvement of daytime coverage, improvement of coverage in the Akron area, increase in administrative capacity, improve the ability of full time staff to coordinate system activities and allow for increased participation with other county departments and regional structures. The team further believes this could be accomplished in conjunction with participation in inter-facility transport.

Medium Term (1 -2 Years)

Clearly Define EMS Roles Outside the Prehospital Environment

Utilization of health care professionals in nontraditional roles is expected to be a necessary and vital component of the future of health care delivery, particularly as a shortage of primary care physicians continues and the overall population ages. Washington County has clearly seen the beginning of this trend and had already discovered the utility of EMS providers to the Washington County Clinic. However, it is incumbent upon EMS administrators, medical directors and any health care professionals managing EMS personnel in a non-EMS clinical setting to have a clear understanding of the limitations and requirements of the EMS provider practice rules as defined in 6 CCR 1015-3, Chapter 2 Rule and Colorado Medical Board Rule 800 as described in 3 CCR 713-30. These requirements need to be clearly communicated and understood by both EMS personnel and fellow clinicians. While the extent of the training and capabilities of the EMS providers has clearly been outlined in the EMS context, EMS providers operating in non-EMS response roles must be aware of their education and practice limits, must be adequately trained for their roles and must be appropriately supervised in order to assure their success in non-traditional roles. Additionally, supervision mechanisms should be established to clearly delineate when activities are supervised by an EMS medical director and when acts are delegated and supervised by another practitioner. Any act outside of the scope of an EMS provider in a facility setting should have either direct supervision or have additional formal training documented (i.e. Foley catheter placement, wound irrigation and management, splinting/ casting). The team recommends the practice of EMS providers in both the Washington County Clinic and contract providers in the Washington County Jail be reviewed in these areas.

Consider Quick Response ALS Unit

The current response model for the Washington County Ambulance Service (WCAS) is to assemble a crew of at least 2 EMS providers to respond to requests for ambulance service. In most cases, this crew is assembled from personnel available in the vicinity of the ambulance closest to the call. If a sufficient crew cannot be assembled locally, providers may respond from the area of a more distant WCAS ambulance vehicle. A vast majority of responses also include a response from the full-time paramedic on duty as part of the ambulance crew who may or may not also bring an ambulance. Based on where full-time staff members are located, the paramedic response usually originates from Akron or Otis. Considering two of the three full-time paramedics live in the Otis area, it is not uncommon for the Otis ambulance to be used for responses throughout WCAS service area. This response model, however, has caused some concern, especially in the Akron area, where it is not uncommon for the ambulance response to come from the Otis area.

Provided an adequate number of volunteers can be maintained, the review team recommends WCAS consider acquiring a quick response vehicle outfitted with advanced life support equipment that can be assigned to the full-time paramedic on-duty. This type of arrangement would allow the on-duty EMS provider to respond immediately to any request for service as soon as the call is dispatched, regardless of location. After this response is initiated, the current practice of assembling a crew for the closest ambulance could continue. Once one or more crew members are assigned to the call, an ambulance response would

then occur as well. Based on the number of personnel assigned and the acuity of the patient, the on-duty paramedic could meet the ambulance on scene and become part of a two person crew, or add themselves as a third or fourth crew member, or withdraw from the call and remain available. This approach would have a number of benefits including:

- A guaranteed immediate paramedic response with advanced life support equipment
- Flexibility to respond an ambulance with one, two or three crew members
- More opportunity for EMT crew members to provide care in conjunction with a paramedic
- Greater ability to detach the paramedic from low acuity responses if sufficient personnel are available

A potential downside of this arrangement would be the need to leave the quick response vehicle at the scene for later retrieval if the paramedic was needed for the ambulance transport phase. Another issue is the potential for the paramedic to arrive significantly before the ambulance and waiting for additional responders and/or the ambulance vehicle. Regardless of these drawbacks, however, the patient would be ensured a rapid response that would be as good as or better than current practice.

Reintroduce Interagency Coordination Council

The 1991 Washington County ambulance licensing resolution references the creation of a local EMS Council that has apparently not met regularly for many years. The stated purpose of the council was to advise the BOCC on standards for EMS treatment, transportation, training, communications and documentation system. As with many coordination and advisory groups, it is likely the small number of agencies operating in the county allowed for the personal relationships between emergency service leaders to be used as a more direct method of addressing issues as they arose. While this has likely worked well, especially in the absence of turnover among senior leaders, the absence of regular large group coordination does have drawbacks. The most significant being that one-on-one problem resolution does not often allow for peripheral agencies to be aware of issues, understand how they are being addressed and participate in their resolution.

As a result, it is likely that some issues will need to be addressed multiple times with multiple organizations. The absence of regular coordination also does not allow for additional participants, including line supervisors and/or future leaders to directly participate in coordination matters. Finally, it should also be noted that the overall EMS system is likely not as small as it may seem with Washington County receiving ambulance responses from five organizations with support from five fire departments, an emergency management office, two law enforcement organizations and a dispatch center. In addition, the county interacts with the regional public health agency, has two local clinics and transports patients to four hospitals regularly. As such, the review team recommends that a regular emergency services council be re-established and should meet at least twice a year to provide status updates from all local response agencies and discuss issues of mutual concern. It may also be wise to

broaden the scope of this council to include coordination of fire, law enforcement and emergency management issues.

Develop Recruitment and Training Plan

In order for improved scheduling and response procedures to be effective in Washington County, a reliable corps of volunteers would be needed in close proximity to all of the ambulance locations. While stakeholders expressed an overall need for additional personnel, the actual staffing needs of the system have not been determined. The review team feels an ideal level of volunteers would include 4 – 6 EMTs located near each ambulance with another 2 -4 drivers with first aid or emergency medical responder training also available. Considering the four WCAS ambulance locations, this would allow for a total staff of 16 – 24 EMTs with 8 – 16 drivers for a total staff of 24 – 40 volunteer personnel. This level of staffing would allow for volunteer personnel to have a reasonable amount of scheduled time per month without placing an undue burden on a limited number of individuals.

In order to support this level of staffing, ongoing recruitment and retention efforts would be required. The basis for this effort should be strategic planning related to where, how and who could be recruited to perform volunteer EMS work. This planning should also include an ongoing plan to work with local partners to deliver initial training on a regular schedule that is convenient to the potential volunteers. An organized system to effectively orient and evaluate new volunteers so they have clear expectations of their role in the system is also required. The review team also recommends that WCAS continue the practice of offering emergency medical responder (EMR) programs as a mechanism to bring volunteers into the system prior to requiring them to take EMT training. Overall, a planned, structured and ongoing program would be the most effective method to stay abreast with, and potentially ahead of, the staffing needs of local EMS services.

Improve Clinic Collaboration

The town of Akron currently has two competing primary care clinics that offer primary care services and limited access to physicians. It is unclear exactly what local, business and political factors drove this evolution. It is clear to the outside observer, however, that the size of the local healthcare market is insufficient to support two clinics. As a result, both clinics appear to be struggling to a certain extent. The situation also makes it more difficult to coordinate and improve services between the Washington County Clinic, ambulance service and nursing home.

Considering this situation, the review team suggests the county government consider developing a request for proposals (RFP) process to operate the Washington County Clinic and invite a variety of healthcare organizations to provide bids to partner in the operation the facility. This invitation should include provisions for bidders to utilize the existing space, staff and providers. The invitation should also be extended to the Yuma District Hospital, as it is likely that collaboration with the Washington County Clinic would likely be more cost effective than operating a competing facility. The team further believes that the current health care climate makes it attractive for larger health care organizations to operate in the primary care arena. A request for proposals is also likely a low risk situation, as the worst case would be

no bidders come forward and the status quo would be continued. A potential element of the RFP could also be use of the full-time ambulance staff to assist in the clinic to the extent possible.

Develop Facilities and Capital Replacement Strategy

Washington County Ambulance Service vehicles are currently housed in fire stations in Anton, Last Chance and Otis. The service headquarters, however, is located in the basement of the county administration building with the Akron ambulances stored in a small garage just behind the county complex. The fire station locations are functional and it is recommended that those locations and corresponding agreements to house ambulances in those facilities be maintained. The primary location in Akron, however, is a less than ideal arrangement and the garage location is particularly constrained with very limited space for the ambulance vehicles or related storage. Additionally, there is no room for growth and no adequate facilities to house full-time staff overnight, no space for a potential quick response vehicle and no community space for use by EMS volunteers for training or social events that would support recruitment and retention.

As a result, the review team recommends that a facility plan for a new ambulance headquarters be created. As a county department, it is further recommended that this facility should be addressed in conjunction with other county needs. The overall need for the ambulance department includes office space for full time staff, equipment storage, appropriate space for overnight accommodations, 3 – 4 vehicle storage bays, classroom and kitchen space. Based on future opportunities, it may also be wise to consider co-location of the ambulance headquarters with the clinic and/or nursing home on a common campus that may lend itself to additional shared facilities as well. Once this facilities plan is determined, a process can then be developed to identify land, obtain funding and construct appropriate facilities. A bond financing option for \$750,000 to construct such a space is included in Appendix A.

Improve Continuing Education Opportunities

Training and education ~~are~~^{is} the foundation of an EMS organization's continued success. Educational programs can also serve as a recruitment, retention and public education tool. All local EMS providers demonstrated a desire for enhanced continuing education (CE) opportunities. An overall training plan should be established to ensure EMS providers have enough continuing education to easily renew their Colorado and/or National Registry of EMTs certificates. Additionally, it is important that the medical director and other outside educators be used in order to provide variety in content and multiple perspectives on current clinical care. It is also likely that partnerships can be established with flight programs, nearby hospitals, neighboring EMS organizations, Morgan Community College, Northeastern Junior College and large hospitals systems across the state to deliver a broader range of EMS continuing education.

Washington County may also want to explore online EMS education opportunities available through organizations such as [Centrelearn](#), [JEMS CE](#) that offer subscription programs or

[HealthOne EMS](#) that offers free programs. These programs are useful in that they allow providers to obtain CE education on their own schedule. Some online CE providers also allow for the option for agency specific content to be developed that may be of future use to WCAS or SYWAS. Local ambulance services should also continue to support volunteer attendance at conference events such as the Colorado State EMS Conference. This practice should be continued to the extent possible as it is a cost effective way to deliver a large amount of CE from a variety of sources at a reasonable cost.

Long Term Recommendations (2 or More Years)

Improve Collaboration and Integration of Health Services

A number of previous recommendations have discussed the closer alignment of health care services within Washington County, particularly those that are owned, operated or contracted by the county government. It has also been mentioned that cooperation with health care entities in neighboring communities would improve the financial health, overall sustainability and most likely the quality of health care services throughout the region. The review team believes strongly that this improved collaboration begins with the health services offered by the county. Currently, the county administrator directly oversees the county clinic with the assistance of a mid-level manager. The ambulance service and nursing home are run by department heads who appear to report directly to the county commissioners. In addition to these county provided services, the Washington County Jail also contracts for basic medical services through a private firm based in New Mexico. It does not appear that any regular meetings or coordination mechanisms exist between these county services.

Considering the limited resources available throughout the county government, the review team recommends that coordination mechanisms be developed between departments to support all county affiliated health care entities and that regular information sharing occur between them. There is also a possibility that some resources, including staff, equipment, supplies and administration may be able to be shared. In particular, full-time ambulance staff members have previously been used to support the clinic. The team believes further opportunity may exist in this area provided EMS provider activities in the clinic can be done in a manner where strong physician oversight can be provided as required by current regulations. The team also recommends that appropriate EMS or clinic participation in jail medical services be evaluated. As mentioned earlier, the competition between primary health care clinics in Akron will also continue to limit opportunities in this area.

Consider Health Services District

Currently the county government has established a dedicated sales tax of 1.5 percent to support health care services in the county. These funds can be used to support the ambulance service, clinic or nursing home. Based on the fragmented nature of these medical services, it is unclear if the 1.5 percent sales tax rate is adequate. Furthermore, it is likely the clinic requires additional support due to the fragmentation of the market due to competition. It was made clear to the review team that little appetite for additional taxation exists within the local electorate.

Considering this overall situation and the lack of coordination noted previously, the review team believes it may be reasonable for the county to consider developing a health services district to better manage health services with a specialized board of directors and the ability to continue the sales tax or levy a property tax as future needs might dictate. All of the services currently being provided would be eligible to exist in a health services district. Additionally, a special district model would allow for these services to be managed in a unified manner with less of the distractions that are common in a more general governmental system. Additional opportunities for partnership may also develop as special district services may be shared or

contracted through other entities. The county, however, would retain statutory authority over ambulance licensing and the overall structure of ambulance service delivery.

Develop Additional EMR Personnel System Wide

State regulations require that a certified Emergency Medical Technician be available to provide patient care during ambulance transport. The South Y-W Ambulance meets this standard while the Washington County Ambulance Service usually exceeds this standard by deploying certified paramedics on most responses. There is concern, however, that an insufficient number of crew members are available in most areas, which creates a need for extended responses from adjoining areas. There are also very limited medical first response services available through local fire departments with most being able to deploy firefighters with only limited first aid and/or CPR training. The Washington County EMS system has already embarked on an effort to provide Emergency Medical Responder (EMR) training to a larger number of individuals. EMR training is a limited program that has replaced and expanded upon advanced first aid and medical first responder programs. It includes a utilitarian set of skills aimed at providing care until additional EMT or paramedic resources arrive. The county system has already realized that these efforts will enhance response capability and will provide an entry level training option for new responders. EMR providers are also capable of driving ambulances or providing additional medical support in addition to EMTs or paramedics.

The review team recommends that EMR training efforts be continued and expanded to the extent possible. Considering that EMR training programs do not require special recognition by the state and that programs can be offered locally without the mandatory involvement of a community college or hospital, the team feels this is an excellent opportunity for WCAS and South Y-W Ambulance to “grow their own” next generation of providers. Once trained, new members can become involved in response and promising new members can continue to EMT training through either Morgan Community College or Northeastern Junior College.

Consider School-Based EMR or EMT Program

As mentioned above, recruiting new members to local ambulance services will be a key factor in maintaining emergency response capacity. Exposure to health professions during high school can also serve as a recruitment tool for future local health professionals. Currently, a number of locations in Colorado have been offering high school EMT programs with good success. While the school and EMS employment dynamics in Washington County are different, the review team believes that school-based CPR and EMR programs may be viable if a suitable instructor corps can be assembled. Due to the number of school districts in the county, a rotational approach to this training may be useful where high school juniors and seniors could be offered the program in alternating semesters. This training could be further used as a springboard for fire service cadet or explorer programs, or programs focusing on health professions or law enforcement. Overall, the team believes this may be an excellent way to provide potential requirements while also delivering a valuable education experience to local youth.

Appendix A

Enhanced EMS System Pro Forma Budget

<u>Category</u>	<u>Current</u>	<u>2014 Proposed</u>	<u>Notes</u>
Revenue			
<u>Fees</u>			
Washington County Ambulance Service	\$ 110,000	\$ 140,000	+30,000 for inter-facility transports
South Y-W Ambulance Service	\$ 24,000	\$ 24,000	No Change
Sales Tax	\$ 199,000	\$ 256,000	Increased portion of tax revenue
Bond / Capital Financing		\$ 75,000	Capital / Bond Financing
Total Revenue	\$ 333,000	\$ 495,000	
Expenses			
<u>Payroll</u>			
WCAS Full-Time	\$ 117,000	\$ 117,000	Current
WCAS Stipend	\$ 30,270	\$ 35,000	\$100/EMS (300 ea) + \$200/IFT (25 ea)
WCAS Shift Coverage	\$ 19,500	\$ 52,560	17,520 hrs x \$3/hr
South YW Stipend	\$ 3,500	\$ 10,500	Increase to \$150/call
Additional WCAS Full-Time	\$ -	\$ 36,000	1 FTE
Benefits	\$ 40,177	\$ 53,550	35%
Total Payroll	\$ 210,447	\$ 304,610	
<u>Operations</u>			
WCAS Operating	\$ 75,000	\$ 90,000	Increased inter-facility costs
South YW Operating	\$ 20,500	\$ 25,000	Increased education expense
Total Operations	\$ 95,500	\$ 115,000	
<u>Capital</u>			
Capital Replacement Fund	\$ 29,000	\$ 20,000	Vehicles & Capital Medical Equip
<u>Debt Service</u>		\$ 55,000	\$750k at 4.0% x 20 years
Total Capital	\$ 29,000	\$ 75,000	
Total Expenses	\$ 334,947	\$ 494,610	
Net	\$ (1,947)	\$ 390	
Property Tax Equivalent			
Assessed Valuation 2012	\$ 126,831,110		
Bond Mill Rate	0.00043	0.43	Mills
Operating Mill Rate	0.00347	3.47	Mills
Total Mill Rate EMS	0.00390	3.90	Mills

Pro Forma Description

Based on the current needs of the Washington County EMS system and the recommendations made above, the pro forma budget details the projected financial impact of the system changes to the WCAS budget. In addition, a small amount of funding is dedicated to the South Y-W Ambulance Service (SYWAS) that provides regular EMS services to a portion of Washington County. This pro forma budget does not take into account current or future financial needs of the clinic or nursing home. An equivalent cost for a property tax to cover EMS expenses is also calculated. The following assumptions are contained in the budget above.

Revenue

- WCAS and SYWAS EMS revenues remain flat at current rates
- Additional revenue is projected for approximately 30 WCAS interfacility transports annually at a 45% collection rate for a \$2,000 average bill
- To meet the expense requirements \$275,000 share of the Health Care Operations Fund Revenue is required

Personnel

- Current WCAS full-time salary and benefit costs remain the same
- An additional WCAS full-time provider is added at a \$36,000 annual salary
- Benefits remain constant at the current 35% of salary level
- WCAS call stipends increase to \$100 per call
- A new WCAS stipend of \$200 for an inter-facility transport call is added
- SYWAS call stipends increase to \$150 per call
- 17,520 hours (2 people x 24/7) of scheduled on-call time is budgeted at \$3/hour
- Considering the additional full-time staff member and the potential premium payments for some shift days and time, hours and or rates for scheduled on call time can be adjusted within the \$52,560 budget

Operating

- Operating expenses are calculated at current levels
- An additional \$15,000 is earmarked for additional WCAS expenses for a quick response vehicle, additional fuel for interfacility transports, and improved continuing education services using outside instructors
- An additional \$4,500 is earmarked to better support SYWAS education and operations
- Additional savings through shared services may be possible, but insufficient detail was available to fully analyze

Capital

- Annual capital replacement amount of \$40,000 is anticipated for replacement of vehicles and capital equipment
- New ambulances will likely be required approximately every four years with approx. \$10,000 per year for other capital purchases
- Debt Service indicates financing of \$750,000 for new facilities and is estimated over 20 years at 4.0 percent interest

Appendix B

List of Stakeholders Interviewed

Washington Board of County Commissioners
Akron Fire Protection District
Colorado Plains Medical Center
Cope Fire Protection District
East Morgan County Hospital
Otis Fire Protection District
South Y-W Ambulance Service
Southeast Washington County Fire Protection District
Washington County Ambulance Service
Washington County Clinic
Washington County Office of Emergency Management
Washington County Sheriff's Office
Washington – Yuma Combined Communications Center
Yuma District Hospital
Tony Wells, Director, Washington County Ambulance Service
Jeff Schanhals, Northeast Colorado RETAC

Appendix C

Assessment Team Biographical Information

Gene Eby, MD

Gene is a fourth generation Colorado native and has practiced emergency medicine with the EPPH group at Porter, Littleton, Parker and Castle Rock Emergency Departments for 17 years. Gene joined the South Denver EMS team in 1998 and is the EMS Medical Director for Littleton Fire Rescue, Wind Crest, Lockheed Martin, Littleton Fire Dispatch and the METCOM Dispatch Center. Prior to joining the team, Gene was the medical director for the Aurora Fire Department and he has served as medical director for Colorado Urban Search & Rescue Team that was deployed to the World Trade Center operation in 2001. Gene was also the medical team manager for Colorado Disaster Medical Assistance Team (DMAT). He obtained his paramedic certification in 1976 and practiced as a paramedic/field instructor for Denver General Hospital Paramedic Division for 12 years prior to attending medical school. He has received the distinguished Dr. Valentine E. Wohlauser Award for Physician excellence in EMS in 2002. Dr. Eby remains active in many areas of regional EMS, serving on state advisory boards since 1998. He received a Governor-appointed position in 2002 to Board of Medical Examiners and in 2008 to the State Emergency Medical and Trauma Services Advisory Council under the board-certified emergency physician role.

Paul Mattson

Paul Mattson is a Colorado native. He moved to South Park in 1985 while working as a landscape artist showing in galleries throughout the western United States. In 1989 he became an EMT and was hired to manage the local non-profit volunteer ambulance system shortly after receiving his initial certification. In 1991 he worked with the community to form the South Park Ambulance District as a governmental entity. The district has provided service with paid staff since January 1992. He became an EMT-Intermediate in 1992 and a Paramedic in 1998. The district, covering an area of almost 1,500 square miles, staffs two paramedic level crews per shift. In addition to building the current system and overseeing operations, he has held numerous county-wide emergency service positions. Due to his interest in emergency communications, he is a member of the Park County 911 Authority Board and the communications operations board. Paul still responds to calls as a paramedic.

Bryan Rickman

Bryan Rickman is the Fire Chief for the West Routt Fire Protection District in Hayden, CO. Bryan began as a volunteer with the fire department in 1974, and took an EMT class in 1975. In 1981, the fire district took over the ambulance service as a transport agency. In 1990, Bryan was hired as the Fire Chief, because the call volume was overwhelming the volunteer service. It was felt that having at least one paid staff would take the load off the volunteers. Also in 1990, Bryan was recognized as the EMT-B of the year by EMSAC. In 1994 Bryan attended an EMT-I class in Grand Junction, offered by St. Marys Hospital. In the late 90's Bryan was elected as the Vice President of EMSAC. Bryan is a Past President of the Routt County EMS Council. He flew as a flight medic with Yampa Valley Air Ambulance from 2000 till 2005. Bryan also works as an ARFF firefighter for Routt County at the Yampa Valley

Regional Airport. He has been adjunct faculty for Colorado Northwestern Community College EMT-B program since 1986.

Candy Shoemaker

Candy began her EMS career as a member of Divide Volunteer Fire Department in 1972 and has remained active with the department over the past 40 years. Candy established the Medical-Rescue division in 1987 and facilitated formation of the high angle rescue team several years later. She is a graduate of UCCS with a Bachelor of Science, Health Science-Emergency Medical Services option in 2003.

She has been the EMS Director for Southwest Teller County Hospital District since 1992 when limited stakes gaming was approved and the Cripple Creek area began to grow and experience an exponential increase in EMS calls. She helped develop a professional paramedic level ambulance service by integrating local volunteer EMTs with experienced paramedics from the paid professional ambulance services in Colorado Springs. Today Southwest Teller County EMS provides ALS ambulance service to all of southern Teller County 24/7.

Candy's other activities have revolved around livestock. She operates a small cow-calf operation and was a 4-H leader for many years. Candy has served on the Teller County Fair Board for 25 years, managing the Horse Program for 12 of those.

Eunice Weber

Eunice Weber is the Kiowa County Ambulance Director in Eads, Colorado. In 1998, while working for the local home health agency, she took an EMT class and began volunteering for the Kiowa County Ambulance Service. In December 2003, Eunice was hired as the Ambulance Director, the only paid staff member for the service. She was appointed by the Kiowa County Commissioners to serve on the Southeast Colorado Regional Emergency Trauma Advisory Council and serves as Secretary.

While serving as ambulance director, Eunice has become a certified First Aid/CPR instructor conducting several classes in the community for different agencies. She also became an EMT instructor conducting classes in Eads under the direction of Dr. Kevin Weber from St. Mary Corwin in Pueblo. Her most recent EMT class included one of her granddaughters, whom she's raised since she was a year old. In 2008 Eunice was recognized as the EMT-B of the year by EMSAC and received her 15 years of service award from the Weisbrod Memorial Hospital in 2012.

Eunice still works as an EMT-IV with the volunteers of the service and regularly participates in EMS response and interfacility transfers.

Sean Caffrey

Sean Caffrey served as the project manager and editor for this project. Sean is the EMS Programs Manager for the University of Colorado School of Medicine. Sean previously served with the Colorado Department of Public Health and Environment, EMTS Section and as the

director of the Summit County Ambulance Service, a county-based governmental enterprise, located in Frisco, Colorado. Sean has been a paramedic since 1991 and is certified as a Chief EMS Officer (CEMSO) through the Center for Public Safety Excellence. He received a BS degree in Emergency Services Administration from the George Washington University in Washington, D.C. and a Masters in Business Administration from the University of Denver. Sean currently serves as the Treasurer of the National EMS Management Association (NEMSMA) Inc. Sean's experience includes service in volunteer, hospital-based, fire service, governmental and private-sector EMS providers. Sean also represented governmental EMS providers on the Colorado State Emergency Medical and Trauma Services Advisory Council, served as Secretary/Treasurer for the Central Mountains RETAC and President of the EMS Association of Colorado, Inc. Sean has been instrumental in developing EMS management education programs at the local, state and national levels. He has led previous EMS assessment projects in the San Luis Valley, Park County, Fremont County, Jackson County, Kit Carson County, Las Animas County, Dolores County and Logan County, Colorado.