

Yuma County Colorado

Emergency Medical & Trauma Services System Consultation



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

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Department of Public
Health & Environment

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

April 30, 2018

Yuma County
Board of County Commissioners
310 Ash, Suite A
Yuma, CO 80758

Dear Commissioners,

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

The department is pleased to have provided the funding for this project and wishes to thank 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 emergency medical and trauma services providers can make the policy decisions necessary to support the development of improved services to patients throughout your jurisdiction. The report itself has been authored by members of the contracted review team and represents their perspectives and recommendations. Understanding that the department has limited regulatory authority regarding services that provide prehospital care and transportation, this report nonetheless represents our commitment to work with local governments to ensure quality health care for all Coloradans.

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

Respectfully,

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

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Introduction and Project Overview

In February 2017, the Northeast Colorado Regional Emergency Medical and Trauma Services Advisory Council, on behalf of Yuma County emergency medical and trauma services stakeholders, requested grant funding from the Colorado Department of Public Health and Environment (department), to provide an assessment and review of the county's emergency medical and trauma services system. The department awarded system improvement funding in July 2017 to support the consultation.

Under Colorado law, the Board of County Commissioners is the ground ambulance licensing authority as defined by C.R.S. § 25-3.5-301. There are four ground ambulance services licensed in Yuma County: Idalia Ambulance Service, South Y-W Ambulance Service, Wray Ambulance and Yuma Ambulance. All four ambulance services provide 911 emergency response and most of the interfacility transports are provided by the agencies based in Wray and Yuma. Fire and rescue services are provided by 11 volunteer departments located throughout the county and most extrications are performed by the agencies based in Wray and Yuma. There are two hospitals in Yuma County, Wray Community District Hospital and Yuma District Hospital, and both facilities currently hold Level IV trauma center designation. Dispatch and public safety communication services are provided by the Washington-Yuma Combined Communication Center. Mutual aid resources come from surrounding counties in Colorado, Kansas and Nebraska when requested. The closest critical care transport resources are based in Washington County. The county commissioners along with the emergency medical and trauma services stakeholders agreed to participate in this consultation process in order to develop viable, long-term solutions to ensure high-quality emergency services continue to be provided to the citizens and visitors of Yuma County.

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



The department awarded a system improvement grant to NCRETAC on behalf of the emergency medical and trauma services stakeholders in Yuma County that authorized approximately

\$25,000 to conduct this review. The department developed a contractual relationship with NCRETAC to manage logistics and serve as the fiscal agent for the project. All team members were selected based on their expertise in rural EMS and trauma systems and were approved jointly by NCRETAC, the Yuma County EMS Council and the department.

The pre-visit survey showed that stakeholders rated the overall effectiveness of the Yuma County emergency medical and trauma services system as above average. During the on-site visit, the members of the various emergency medical and trauma services organizations demonstrated their commitment to provide outstanding service for this rural community and it was evident that the community recognizes this dedication with its support of the medical facilities and emergency response agencies serving the area.

Yuma County Geography and Demographics

Yuma County is located in northeastern Colorado and is neighbored by seven other counties including Kit Carson, Logan, Phillips and Washington in Colorado, Chase and Dundy in Nebraska, and Cheyenne in Kansas. Yuma County is large, encompassing 2,369 square miles,



with an average elevation of 4,200 feet. The estimated 2017 population provided by the U.S. Census Bureau is 10,075 residents and a population density of 4.2 people per square mile, designating the county as frontier. According to 2017 estimates, the population of Yuma County had increased 0.3 percent from 2010 while county populations in Colorado increased an average of 11.5 percent during this period. Since 1930, the population of Yuma County has been in decline, with the greatest

decline attributed to people leaving the county in large numbers during the great dust bowl era. The over-65 age group in Yuma County rose from 16.2 percent in 2010 to 18.7 percent in 2016. This compares to an over-65 population of 13.4 percent for the state. This demonstrates the potential for a future increase in the number and percentage of residents over age 65 in Yuma County. The median household income within Yuma County is \$42,026, compared to \$62,520 for the state, with an estimated percentage in poverty of 14.6 percent. The median home price is estimated at \$134,900 compared to a state median price of \$264,600. The county lags in the area of health insurance, with an estimated 12 percent uninsured compared to 9.2 percent for the state. The assessed valuation for Yuma County in 2016 was \$239,005,960. This compares to the average assessed valuation of \$1,584,666,712 for the 64 counties in Colorado. The Yuma County general fund budget for 2018 is \$5,339,287 with a total mill levy of 21.820. Yuma County does not levy its own sales tax although eligible transactions are currently taxed by the state and city governments in Wray and Yuma.

Yuma County was carved out of Washington County when it was created by the Colorado legislature on March 15, 1889. The county was named after the Yuma Nation of Native Americans. The landscape of Yuma County is predominately rolling prairie, sand hills and farmland. Yuma County has always been an agricultural community and is the largest corn-producing county in the state. Access to water supplies for irrigation, particularly on the west

side of the county, bolstered economic activity and helped to moderate the effects of out-migration that negatively influenced other counties on the eastern plains of Colorado. Yuma County also boasts the lowest elevation in Colorado at 3,315 feet where the Arikaree River flows into Kansas. Several major highways pass through Yuma County: US Highways 34, 36 and 385, and State Highway 59. These roads carry significant volumes of commercial truck and agricultural traffic.

Emergency Medical and Trauma Service Providers

Idalia Ambulance

Idalia Ambulance Service, Inc. was established as a nonprofit corporation by the community in 1985 and is funded by user fees, donations, grants and a subsidy from Yuma County. A single type I four-wheel-drive ambulance based at a station in Idalia serves an approximately 490 square mile area in southeastern Yuma County. An all-volunteer staff composed of four EMRs, seven EMTs and one EMT-Intermediate provide basic- and advanced-life support care to the community. The ambulance is about 16 years old but has less than 20,000 miles and is in excellent condition. There is no formal maintenance plan for vehicles or equipment but the ambulance is inspected annually. Idalia Ambulance is dispatched on the Wray Ambulance talk group using the statewide digital trunked radio system plus a text message to the volunteer's mobile telephone. Poor coverage by the digital trunked radio system and mobile telephone carriers in that portion of the county makes it difficult to receive notifications and transmit an acknowledgement. Wray Ambulance is typically called for mutual aid requests but there is no system in place to automatically dispatch mutual aid when Idalia does not acknowledge a call.

Idalia Ambulance reported 12 responses in 2017, a substantial decrease from nearly 100 responses in 2010 when Bonny Lake State Park was still open. The park, including a visitor center and 300-site campground, was permanently closed in 2011 after the lake was drained. The area is now a state wildlife area with no staff and very few visitors. Population in the service area was about 1,000 when the park was operating but has declined to around 400 now. The school in Idalia has become the focal point for the community in recent years. Patients are transported to a hospital in Wray or Burlington, a distance of about 30 miles to either facility.

South Y-W Ambulance

South Y-W Ambulance Service, Inc. was established as a nonprofit corporation in 1980 and is funded by user fees, donations, grants and a subsidy from Yuma County. Two type I four-wheel-drive ambulances based at a station in Kirk serve an approximately 790 square mile area of southwestern Yuma County, southeastern Washington County and a small strip across northern Kit Carson County. An all-volunteer staff composed of one EMR, eight EMTs and three EMT-Intermediates provide basic- and advanced-life support care to the community. Firefighters from departments in the area assist with responses or drive the ambulance when necessary. One ambulance is about 14 years



old but has less than 10,000 miles. The other ambulance is just five years old with less than 20,000 miles. The newer unit was the replacement for an ambulance that was a total loss after a collision. Both South Y-W ambulances are in excellent condition. It is unclear if there is a formal maintenance plan for vehicles or equipment or whether a specific staff member is responsible for maintenance and repairs. Even though they run few calls, both ambulances are needed to have a backup in case one goes in for repair. Repairs have been difficult with ambulances often out of service for 2-3 weeks at the shop in Burlington.

Last year, South Y-W responded to 41 calls in Yuma County and 17 in Washington County. Fourteen patients were transported to the hospital in Yuma, a distance of 40 miles, and two patients were transported 70 miles to the hospital in Wray. Yuma Ambulance provides mutual aid if South Y-W is not available or when ALS care is needed. The fire department from Joes or Kirk assists on traffic crashes and some of the volunteer firefighters serve as ambulance drivers which greatly enhances response capacity.

Wray Ambulance

Wray Ambulance is a department of the City of Wray providing paramedic response and transport to the city and unincorporated areas in eastern Yuma County. It is funded by user fees, donations, grants and a subsidy from the city general fund. Wray Ambulance also occasionally submits a request for subsidy from Yuma County to address specific project needs. Wray ambulance began, as many do, as a service of the local mortuary.



Yuma County took over the service sometime in the early 1970's before the organization found its longtime home as a department of city government about 20 years ago. Wray Ambulance recently endured a significant personnel issue but has hired a new director with significant experience in northeast Colorado who is renovating systems and processes. Three type III ambulances are based at a single station in Wray to serve a population of about 4,000 primarily within the city but also dispersed across more than 1,000 square miles of rural, agricultural land. Wray Ambulance is staffed with a combination of paid and volunteer personnel. The basic staffing model includes the primary use of three full time paramedics, supplemented by part time staff, to field one ambulance 24 hours per day seven days per week. Additional staff members are paid to be on call and available to cover a second ambulance call or request for interfacility transport. The City of Wray maintains a residency requirement to be eligible for full time employment. The average age of the ambulances is about 7 years and just over 100,000 miles. All three ambulances appear to be maintained well and are in very good condition. The oldest unit is scheduled for remount in 2019.

In 2016, Wray Ambulance responded to more than 400 calls for service with more than 300 resulting in a patient transport. Interfacility transfers from the hospital in Wray comprised about one-third of the transport volume. There has been little population growth in the area, only 0.6 percent since the last census. The over 65 age cohort has increased at a faster rate and is about two percent higher than in 2010. As the agriculture industry consolidates, the region is also seeing a reduction in youth retention. These demographic shifts are increasing

healthcare demand and requests for service, while reducing the pool of workers and moving toward a payer mix with less favorable reimbursement rates.

Yuma Ambulance

The City of Yuma Ambulance Service is an enterprise of the City of Yuma providing paramedic response and transport to the city, and unincorporated areas in western Yuma County and



northeastern Washington County. It is funded predominately by user fees along with some donations and grants. Mortuaries operated the ambulance service in Yuma during the 1960's. By the early 1970's, the city purchased an ambulance and began to run the system. The current ambulance director was brought on in the 1980's and became the agency's sole full time employee in the 1990's. One type I and three type III ambulances are based at a single station in Yuma to serve a population of about 5,000. The population is concentrated in the city but a portion

of the residents is dispersed across more than 800 square miles of rural, agricultural land. The Yuma Ambulance staffing model is built, primarily, on the response of their long-time director who remains available for calls a majority of the time. In addition, the service added a second paramedic last year, and is currently sponsoring an employee who works part-time as she studies to be a paramedic. Upon completion of her education, she will join the service as the third FTE. Part-time and on call staffing is utilized to cover second call out and interfacility transfers. Uniquely, the director is also credentialed to work inside the Yuma District Hospital, in the event emergency staffing is required.

Wray Community District Hospital

Wray Community District Hospital is a Critical Access Hospital, a designated Level IV Trauma Center and the primary destination for ambulance transports originating in eastern Yuma County. The hospital has 15 licensed beds, three emergency department beds and an average daily census of 3.7 patients. The facility provides the only obstetrical care in the area. According to the most recent designation application, over the year there were 402 trauma related visits to the emergency department, 27 of which met state registry criteria. Of the 27, 21 were transferred to a higher level of care; 16 by ambulance and 5 by air medical. There were no trauma deaths. The day shift is staffed by two or three RNs and there is always an additional RN on call. Administrative RNs would also be available in a disaster emergency situation. Staffing is sometimes challenging; they are currently short-staffed for both RNs and lab techs. Having an RN available to send on critical care transport runs is often difficult. Medical resources include one general surgeon, three family practice physicians, three physician assistants, and two family practice residents. The three physicians also provide medical direction for the Idalia, South Y-W and Wray ambulance services. The physicians and physician assistants are in the clinic during the day and cover the emergency department as needed. Additional resources include an orthopedic surgeon from Boulder who is in town two days every other week, providing elective surgery and clinic follow-up. The team had the opportunity to observe a routine trauma visit to the emergency department, and there were

no delays in the physician assistant seeing the patient. The hospital and clinic provide healthcare not only for the 2,000 residents in town but for a total of 8,000 people including those in surrounding areas. Finances are a struggle as reimbursement is down, partly due to an increase in Medicaid patients and partly due to the fact that both Nebraska Blue Cross and Kansas Blue Cross no longer allow subscribers to cross state lines into Wray for routine care. The hospital district currently owns the building, but it is operated by a non-profit board. There is a need to bring ancillary services back into the main building to optimize reimbursement. The hospital is working on a 10-year strategic plan and evaluating whether to remodel current space or look at new construction.

Yuma District Hospital

Yuma District Hospital is a Critical Access Hospital, a designated Level IV Trauma Center and the primary destination for ambulance transports originating in western Yuma County and parts of Washington County. The hospital has 15 licensed beds, of which only 12 are staffed and operational. There are four emergency department beds and the hospital average daily census is 1.06. According to the most recent designation application, over the year there were 1,373 trauma related emergency department visits, 33 of which met state registry criteria. Of the 33, 21 were transferred to a higher level of care; 14 by ambulance and seven by air medical. There was 1 trauma death. The hospital has 14 RNs on staff and all but one new RN have current Trauma Nursing Core Course status. There are six physicians who cover the clinic and come to the emergency department when needed. All six physicians are current in Advanced Trauma Life Support. One of the hospital physicians serves as medical director for the ambulance service in Yuma. The hospital enjoys a close relationship with the ambulance but there is no fiscal support or sharing of systems. The hospital provides medical care for a catchment area of over 1,000 square miles. The hospital is new and maintained well. Financial stability is a challenge, as with all rural (and urban) facilities. Many of the administrators are fairly new to their current role, although they have been at the hospital in other positions. The trauma coordinator is established in her role and provides resources to many other programs in addition to trauma.

Washington-Yuma Combined Communications Center



Washington-Yuma Combined Communications Center (WYCOMM) is a combination public safety answering point (PSAP) and dispatch center that covers a population of 15,000 people over 4,800 square miles. WYCOMM serves all of the public safety agencies in Yuma and Washington counties and handles an estimated 23,500 requests for service annually not including administrative related calls. The center was

established in 1992 as the first communications center in Colorado to combine the resources of two rural counties in order to equip and operate a state-of-the-art communications center. This multi-county cooperation allows for greater capability, particularly in terms of staffing, that would not otherwise be possible. WYCOMM is located on the lower level of the City of

Yuma Police Department building. The center routinely staffs two console positions 24 hours per day with the capability to staff up to four positions. A TriTech computer-aided dispatch system is utilized in conjunction with a software-based Medical Priority Dispatch system that prioritizes EMS responses and allows for the provision of medically appropriate pre-arrival instructions by dispatchers. The center utilizes the statewide digital trunked radio system to communicate with response agencies and also incorporates cellular text messaging for notification purposes. Public notification capability is available to WYCOMM through the Code Red platform. The center also maintains an active Facebook page. Governance of the center is split between a 911 Authority Board that deals mostly with financial matters and an 11-member board of directors that provides oversight and guidance regarding staffing, policies, procedures, technology and other administrative matters. WYCOMM is managed by a director, assistant director and financial director. Dispatch staff includes eight full-time dispatchers and a handful of part-time dispatchers. The center shares space with the Yuma County Office of Emergency Management and the associated Yuma County Emergency Operations Center. During the site visit stakeholders spoke highly of the communications center. While the consultation team was not able to speak with leadership due to unforeseen circumstances, it was noted by EMS stakeholders that both the text message notification system and the reliability of pre-arrival medical instructions were ongoing concerns that were currently being addressed. It was also noted that radio coverage was spotty, particularly in the eastern end of the Yuma County.

Yuma County Office of Emergency Management



The Yuma County Office of Emergency Management (OEM) has only one employee. The emergency manager reports directly to the Board of County Commissioners and is responsible to provide all of the planning, coordination and response functions assigned to the office. The most common risks within Yuma County include tornadoes and other severe storms, prairie fires and transportation incidents. Emergency management maintains a robust public website in cooperation with the Yuma County Sheriff which includes a substantial amount of preparedness information for the public. A county Local Emergency Operation Plan is maintained with appropriate annexes related to EMS, public health and healthcare needs. The mass-casualty portion of the plan provided by the NCRETAC in 2006 is still in use. The OEM was commended by EMS stakeholders for its regular exercises, including a recent training on active shooter events. Of particular note in this exercise was the opportunity for responders to run the exercise scenario multiple times in one day in order to further improve their skills and procedures. While conducting the site visit a routine upgrade to the emergency operations center (EOC) was underway. Overall the EOC is of limited size, but appears to have all of the necessary radio, phone and information technology capability to coordinate local emergency operations.

Fire Departments

There are 11 fire departments that serve Yuma County, primarily to provide wildland and structural fire suppression. The fire departments are automatically dispatched with an ambulance service to motor vehicle crashes to provide extrication and mitigate other hazards at the scene but also respond when an ambulance agency requests assistance. The fire departments have good working relationships with the ambulance agencies but do not have a formal schedule to regularly train with their EMS counterparts.



Air Medical Services

Rotor-wing air medical coverage for Yuma County is primarily provided by North Colorado Med Evac (Med Evac) through their helicopter based in Akron. The next closest air medical resource is the helicopter based in Hugo operated by AirLife Denver which includes virtually all of Yuma County within its 150-mile response radius. Med Evac has other rotor-wing bases in Boulder and Greeley, and AirLife has additional bases in Frederick, Colorado and Cheyenne, Wyoming. These two agencies provide rotor-wing critical care coverage for most of northeast Colorado as well as parts of Wyoming and Nebraska. Both agencies staff their rotor-wing units with two RNs, or an RN and critical care paramedic. It may be feasible to use the air medical crew in Akron to assist with ground transports if helicopter flight is not possible but critical care personnel are required. There are also rotor-wing air medical services based in Scottsbluff and North Platte, Nebraska that could respond to calls in the eastern reaches of Yuma County if necessary. Colorado-based fixed wing air medical coverage is available through AirLife Denver and Flight For Life Colorado. Both agencies operate out of Centennial Airport using a Beechcraft KingAir 200, a pressurized, twin turboprop aircraft capable of instrument flight at a speed of 265 nautical miles per hour. These aircraft are capable of landing at both airports in Yuma County and can be used if an ambulance is available to shuttle the patient between the hospital and airport. AirLife and Flight for Life also offer specialized transport capabilities for neonates and high-risk obstetrical patients by air or ground.

Analysis of Yuma County EMTS System Components

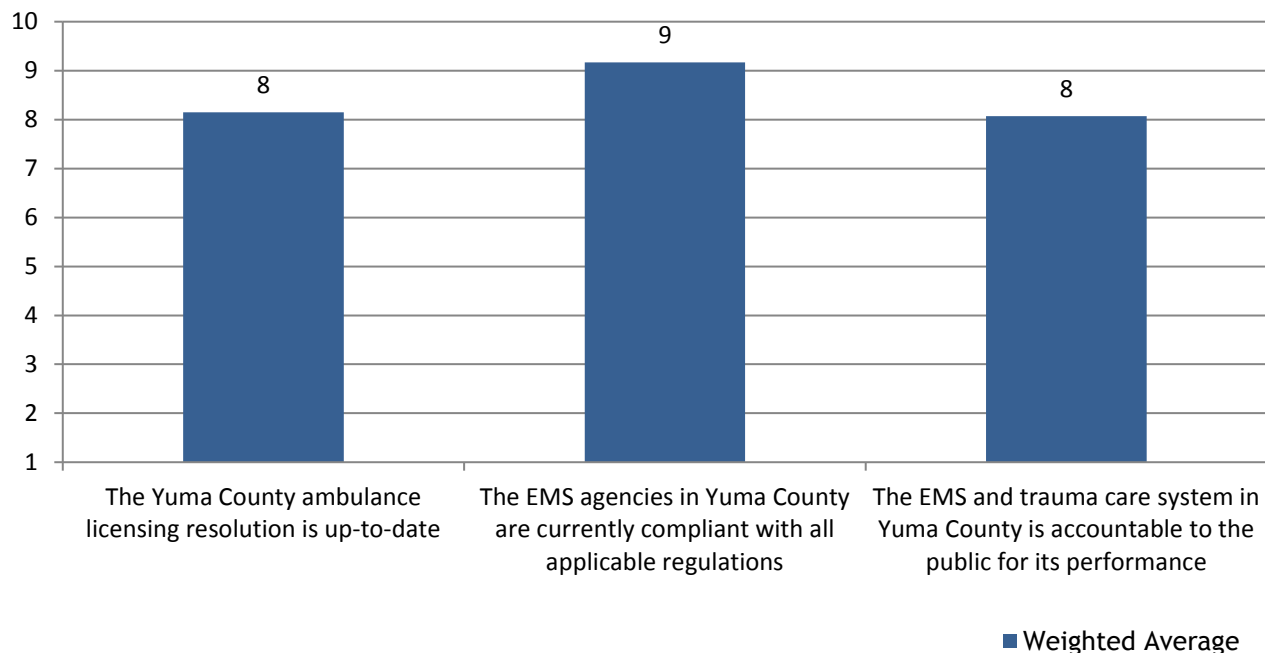
Prior to the consultative visit, key participants from the emergency response system and local health care facilities were asked to complete a survey rating the current emergency medical and trauma services and relationships in the county. In addition, elected officials, and emergency medical and trauma services system stakeholders were interviewed during the consultative visit. The following sections take into consideration the pre-visit survey, interviews and factual data from a variety of sources.

Legislation and Regulation

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 37 of 41 Respondents



Regulatory Overview

The state of Colorado has full regulatory authority for licensing and regulation of hospitals, skilled nursing facilities, air ambulances and most healthcare agencies. Regulatory oversight for ground ambulances is divided between state and county levels of government. Counties are required by statute to license and regulate ground ambulance services and issue ambulance vehicle permits, while the state has sole authority to set forth rules regulating individual EMS provider education, medical direction and scope of practice. Most counties establish ambulance licensing requirements through resolution or ordinance. Given the continual increase in clinical sophistication and complexity of EMS systems, many counties also formally establish a local, multidisciplinary council to advise the Board of County Commissioners on EMS issues.

Yuma County Ambulance Resolution

The Yuma County resolution governing licensure of ground ambulance services currently in effect was adopted Jan. 9, 2007. The resolution contains the standard elements seen in similar documents enacted around that time, but is progressive for its day in that it also requires the Board of County Commissioners appoint a county council to advise the board on specific emergency medical services standards. The county emergency services council continues to meet regularly and works diligently to fulfill its obligations to the commissioners and the community. Several revisions to governing law have been enacted over the last decade and it appears the resolution has not been amended to conform with the changes. The Yuma County Board of Commissioners clearly understands the importance of emergency medical and trauma services in Yuma County. The agreement for ambulance service dated Jan. 1, 1997 demonstrates the county's commitment to ensure the ambulance agencies have safe, reliable equipment to provide services. Given the county's commitment and the framework established by these foundational documents, the emergency medical and trauma services providers are in a good position to enhance the effectiveness of the system in Yuma County.

Special Districts

Wray Community Hospital District and Yuma Hospital District are both special districts governed by Title 32 of the Colorado Revised Statutes. As a political subdivision of the state of Colorado, the citizens elect a governing board that is responsible for collecting taxes and providing services as defined in the district's service plan. Functionally, the service plan is an agreement between the special district and the community it serves. Special district service plans and other foundational documents are routinely reviewed as part of the consultative visit, but both of the hospital districts were formed before the current requirement for a service plan was enacted and the Colorado Department of Local Affairs did not have the service plans on file. The importance of a current service plan became more significant recently when the Federal Emergency Management Agency used special district service plans to document legal authorization to provide services and determine eligibility for federal disaster reimbursement.

Regional Emergency Medical and Trauma Services Advisory Council

Colorado has 11 regional emergency medical and trauma services advisory councils (RETACs) to help provide a coordinated approach to emergency medical and trauma care. Each RETAC consists of five or more counties that participate through an advisory council and is responsible for creating a regional plan to improve the quality and coordination of emergency medical and trauma services in the region. Each RETAC determines the services it will provide based on the priorities established by the council. For example, the NCRETAC offers support for provider continuing medical education, medical direction resources and a comprehensive mass casualty incident plan for counties in the region. Yuma County has appointed representatives to the NCRETAC and they actively participate in council activities.

Recommendations

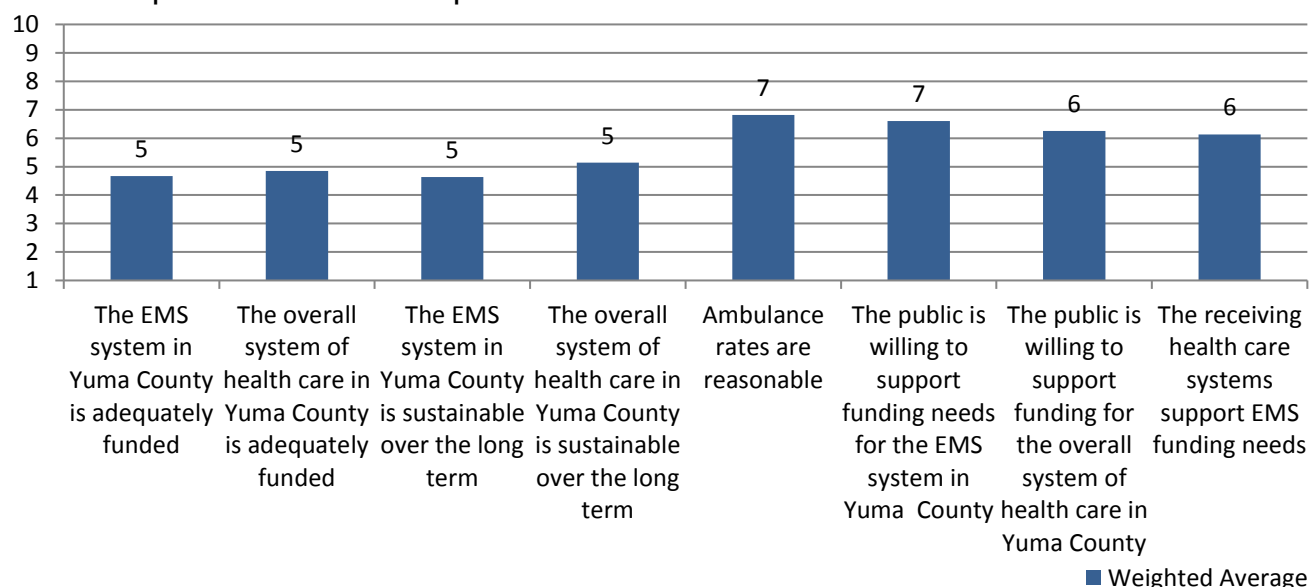
- ✱ Update the Yuma County ambulance licensing resolution to comply with governing law and current practices.
- ✱ Consider including representation from air medical, EMS medical direction, local emergency management and public health on the local emergency services council in revisions to the county ambulance licensing resolution. Consider expanding duties for this council to include recommending priorities for local system development, and prioritizing requests for supplemental funding.
- ✱ Each hospital district in Yuma County should review its service plan, update if indicated and file the revised service plan with the Colorado Department of Local Affairs. Although the services currently offered are authorized by statute, a plan that includes all current and future services will increase transparency for this level of government and enhance reimbursement if district resources are ever called to assist with a declared federal disaster.

System Finance

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 37 of 41 Respondents



System Finance

The emergency medical and trauma services system providers were consistently helpful and worked in a collaborative manner with the consultative visit team. Most of the emergency medical and trauma services agencies based in Yuma County are local governments but those that are not still receive some form of subsidy to provide services. The level of cooperation between the services is high and the relationships with local hospitals and the communications center are very good. The system is funded through the traditional sources including user fees,

sales and use taxes, property tax levies, governmental transfer payments, public or private grants and donations.

Ambulance services

The four ambulance services in Yuma County currently have functional response systems for their coverage areas using existing resources. Operating efficiency is impacted to a large extent by the relative economies of scale available to the services in Wray and Yuma that are further bolstered by interfacility transport revenue. It should be noted, however, that the extensive use of below cost volunteer labor is a significant factor in keeping the system affordable.

To illustrate the actual cost of providing emergency medical services, an annual capital estimate of \$15,000 per ambulance is assumed, based on a 15-year depreciation cost of ambulances and equipment. Historically, vehicles and equipment have been replaced with assistance from state grant funds, but must be included to allow one to understand the true cost of operations and efficiency of each agency. Any capital outlay included in the 2016 audited financial statements was deleted so that this comparison could be made fairly. All of the EMS agencies fail to operate at a financial breakeven level based on ambulance transport revenues and all receive some form of public support to cover the deficit. User fees for long-distance interfacility transports significantly enhance revenues available to support the ambulance services in Wray and Yuma.

2016	Expenses	Capital Estimate	Total	Calls	Cost per Call	Transports	Cost per transport	Call Revenue	Revenue per transport
Yuma	\$ 363,709	\$ 60,000	\$ 423,709	553	\$ 766	378	\$ 1,121	\$ 400,258	\$ 1,059
South YW	\$ 39,436	\$ 30,000	\$ 69,436	54	\$ 1,286	21	\$ 3,306	\$ 17,794	\$ 847
Wray	\$ 435,530	\$ 45,000	\$ 480,530	409	\$ 1,175	313	\$ 1,535	\$ 319,519	\$ 1,021
Idalia	\$ 7,411	\$ 15,000	\$ 22,411	12	\$ 1,868	6	\$ 3,735	\$ 1,795	\$ 299

Idalia Ambulance is also a non-profit corporation and has the lowest total cost at \$22,411 due to an all-volunteer staff and operating only a single ambulance. While a small percentage of this cost is recovered through patient billing, nearly 80 percent comes in the form of charitable donations and operating subsidy, primarily in the form of insurance, from Yuma County. Idalia Ambulance has the highest cost per transport of any agency in the county at \$3,735 and generates the lowest amount of revenue per transport at \$299. Idalia uses the same billing provider as Wray EMS, however revenue per transport is significantly below the industry average. Idalia has sustained its equipment through significant support from state grant programs.

Established as a non-profit corporation, South Y-W Ambulance relies exclusively on volunteer labor to respond to 911 calls in two response-ready ambulances. With expenses totaling \$69,436 and revenue derived from patient transports of only \$17,794, South Y-W depends on donations, state grant funding and the subsidy from Yuma County to make up the shortfall. South Y-W also has a high cost per call at \$3,306 relative to its per-call revenue of \$847. This per call revenue figure is above the industry average for primarily BLS transport. South Y-W has a response area that includes parts of three counties, Kit Carson, Yuma and Washington, but only receives an operating subsidy, primarily in the form of insurance, from Yuma County.

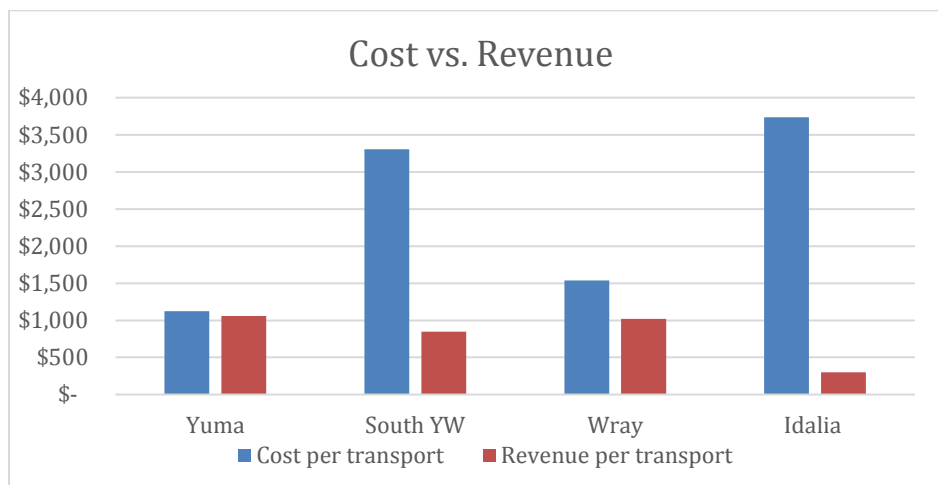
With an annual total cost of \$480,530 and revenues of \$319,519 in 2016, Wray Ambulance makes up the difference primarily with a subsidy from the city general fund and some county support. State grant funding is used extensively for capital items. These figures translate to a cost per transport of \$1,535 and per-transport revenue of \$1,021. This revenue per transport number is high for the industry and likely can be attributed to interfacility transports comprising about one third of the total transports. Wray Ambulance recovers about 73 percent of its cost of operations from billing, which is subcontracted to a third party. The recent transition to a new, third party billing company creates some uncertainty in these figures. It remains to be seen if the historic collection percentage continues to apply.

In 2016, Yuma Ambulance expenses totaled \$423,709 and transports generated revenue of \$400,258. Impressively near break-even, the ambulance service spent just \$23,451 more than it earned in 2016. Much of this can be attributed to interfacility transports making up 28 percent of its total transports. Yuma Ambulance is differentiated by a lower cost per transport, \$1,121, and a relatively high collection rate. The low cost of operation is less likely to be related to any particular efficiency than it is to a staffing model that relies heavily on the ambulance director. As an enterprise of the City of Yuma, Yuma Ambulance must be self-sufficient and may only source up to ten percent of its budget from state or local government contributions. An approximately ten percent operating surplus in 2016, supporting \$363,709 in operating costs with \$400,258 in transport revenue, demonstrates the service can sustain operations but only a portion of its capital needs. Yuma Ambulance does take advantage of state grant programs to help fund capital purchases but is the only Yuma County agency that does not receive regular subsidy from the county.

The macro trends affecting ambulance reimbursement are more complicated to predict. The health insurance system is on an uncertain course. The structure of the Affordable Care Act drove increasing numbers of formerly uninsured and privately insured patients to Medicaid, with a cumulative effect of reduced revenue for providers. If the health insurance system is changed by the current administration, there may be a reduction in Medicaid patients but there is no guarantee that an increase in patients with private insurance will accompany that change. It is clear that, on average, Yuma County is becoming older, causing an increased number of Medicare patients, and likely an increase in per capita ambulance usage. This is important because it is expected to increase demand for services while reducing the amount of reimbursement per call.

Yuma County sets ambulance rates based on the rates charged by other providers in the area. While this strategy is commonplace in the industry, it does not account for the different cost structure for each ambulance service and the cost per call to deliver services. System structure, geographic and personnel challenges can vary greatly from jurisdiction to jurisdiction and a pricing structure that takes the actual cost of services into account is preferred. This will become more important in the coming years as reimbursement from government payers is expected to be tied more closely to the cost of service delivery.

The 2016 cost per call and revenue per transport by agency are as shown in the chart below:



It is important to note that the Yuma County EMS system was able to provide care and transport on approximately 1,000 calls for service with only five full-time employees. This could only be accomplished through the utilization of many dedicated volunteers. It is evident that economies of scale, both in agency size and call volume, contribute greatly to operating efficiency. The subsidy per transport for the agencies in the southern part of the county is significantly higher and may present an opportunity to redirect these funds towards the greater system of response by reducing duplicative efforts and taking advantages of economies of scale to decrease the aggregate cost to provide services.

The system is consistently challenged to provide reliable daily staffing, effective mechanisms for billing and collections, efficient vehicle maintenance and repair, availability of initial training and continuing education, interfacility transport capability, and consistent clinical care and is likely not sustainable in its current form. A formalized, coordinated structure with a reliable, dedicated funding stream can address these gaps and reduce duplicative efforts inherent to the current configuration. Functionally, this translates to consolidation of the ambulance services under some form of local government that encompasses the entire county. The governmental form is dependent, to some extent, on the source of supplemental funding but is also a function of an organizational structure that offers satisfactory accountability to the electorate.

A countywide ambulance organization would need funding to improve minimum daily staffing ensuring 911 response to all areas of the county and availability of qualified staff to manage interfacility transports out of the hospitals. The organization would also make use of common resources to centralize services and leverage economies of scale through standardized capital purchases, management of vehicles and capital equipment to maximize useful service life, maintenance of networks required for electronic patient care reporting, records management and other specialized information technology, unified billing and collections to optimize cost recovery through user fees, integrated medical direction, quality management and delivery of continuing medical education to monitor and maintain ongoing provider competency. The

objective would be to utilize a common pool of funding to support the entire system. It is not essential that the countywide ambulance organization directly provide actual EMS services, but direct responsibility would enhance accountability for expenditures.

Consolidating ambulance operations under the county government is one option to consider. Colorado law permits county governments to own, operate, contract or otherwise provide ambulance service. County governments also have the authority to levy sales taxes as well as taxes on property. The county also has an existing infrastructure to provide core services such as human resources management, accounting and finance that would only be expanded incrementally, not created from scratch. The county has an elected board but as a general purpose local government, accountability for the quality of any particular service is limited due to the broad array of other services provided to the community. The total cost to provide service is also obscured by allocation of the costs for administrative services.

Forming a special purpose local government enhances accountability to the electorate because the organization is only responsible for providing ambulance service and the elected board is directly accountable because all decisions are related to the sole service provided. All expenditures are attributed to the provision of ambulance services and the total cost to provide service is clear. Portions of Yuma County already have special purpose local governments in place that affect the options for a district that encompasses the entire county and allowable mechanisms for funding. Formation of an ambulance district does not conflict with the other service districts currently in place but is limited to a property tax levy as the source of funding to supplement cost recovery through ambulance billing.

Based on 2017 data from the county assessor, one mill, or a \$1 tax per \$1,000 of assessed value countywide, yields approximately \$245,000. It is estimated that the activities listed above could be accomplished with an assessment of approximately 2 mills, or \$490,000, a tax rate lower than that currently assessed by any municipality, school district, fire district or the county itself. The method to obtain a similar amount of funding from a sales tax arrangement was somewhat difficult to estimate due to a system problem that prevents the state from producing current sales tax reports, however, to generate a dollar amount equivalent to a 2 mill property tax rate would require a countywide sales tax rate of approximately 0.5 percent to 0.7 percent on taxable sales. Stakeholders expressed a sales tax would be a more palatable funding alternative but current Colorado law restricts sales tax funding to counties, municipalities and a limited number of special purpose districts, not including ambulance districts. A supplemental funding arrangement based on sales tax would require that the ambulance service be organized as a county government activity. Property taxes tend to be less volatile than sales taxes and are much more difficult to avoid. Yuma County is not a significant tourist destination or a hub for commerce drawing in large numbers of people from other areas so the taxpaying cohort for either levy, sales or property, is similar.

Regardless of the funding method and governance structure, the bottom line is there are four well established ambulance services that collectively cover the entire county. It would be counterproductive to suggest that each service pursue an individual strategy to obtain funding for their ongoing, and mostly similar needs, when a collective approach is possible, cost effective, and is consistent with the ongoing success of other regional structures such as the

Washington-Yuma Combined Communications Center, Northeast Colorado Public Health and the NCRETAC.

Medical facilities

Trauma services at both hospitals in Yuma County are provided through their emergency departments as a supplement to existing services and on an as needed basis. The hospitals are funded primarily through user fees with minimal tax support. Recruitment and retention of clinical staff has been a struggle and significantly affects the hospital cost structure when temporary workers fill these positions. On a positive note, both facilities are designated as critical access hospitals and are eligible for more favorable reimbursement from Medicare. The hospitals provide a high level of care despite an unfavorable payer mix, difficulties associated with the constant change in the insurance and reimbursement environment, and the challenges inherent to a rural setting.

Yuma County

Yuma County maintains an emergency medical services line item in the annual budget. This budget item regularly allocates funding for insurance, and repairs and maintenance for the ambulances in Idalia and South Y-W. The county also appropriates funding to assist with capital purchases for the ambulance services when needed. Yuma County expects the four ambulance services to cover their own expenditures for personnel, supplies and other operating expenses. This support provides a small subsidy to small areas in Kit Carson and Washington Counties served by South Y-W. While these costs are minimal, some inequity does exist.

In 2016, public safety accounted for about 41 percent of the Yuma County general fund budget. This included expenditures for the sheriff's office, county jail, coroner's office, county emergency management and the contribution to the combined communications center. By statute, the sheriff is responsible for search and rescue but expenses attributed to this function are not identified separately; they are incorporated within the sheriff's office budget line. Annual costs for search and rescue are not substantial and funding of the sheriff's office appears to be adequate to meet baseline needs. County emergency management has a separate line in the Yuma County general fund budget. Based on the 2016 budget figures, the program appears to be funded to meet current and anticipated future needs unless there is a dramatic change in risk for specific hazards.

Recommendations

- ✱ Establish a countywide ambulance district. A district will support and coordinate personnel throughout the county to improve minimum daily staffing ensuring 911 response to all areas and availability of qualified staff to manage interfacility transports out of the hospitals. A district would also make use of common resources to centralize services and leverage economies of scale through standardized capital purchases, management of vehicles and capital equipment to maximize useful service life, maintenance of networks required for electronic patient care reporting, records management and other specialized information technology, unified billing and collections to optimize cost recovery through user fees, integrated medical direction, quality management and delivery of continuing

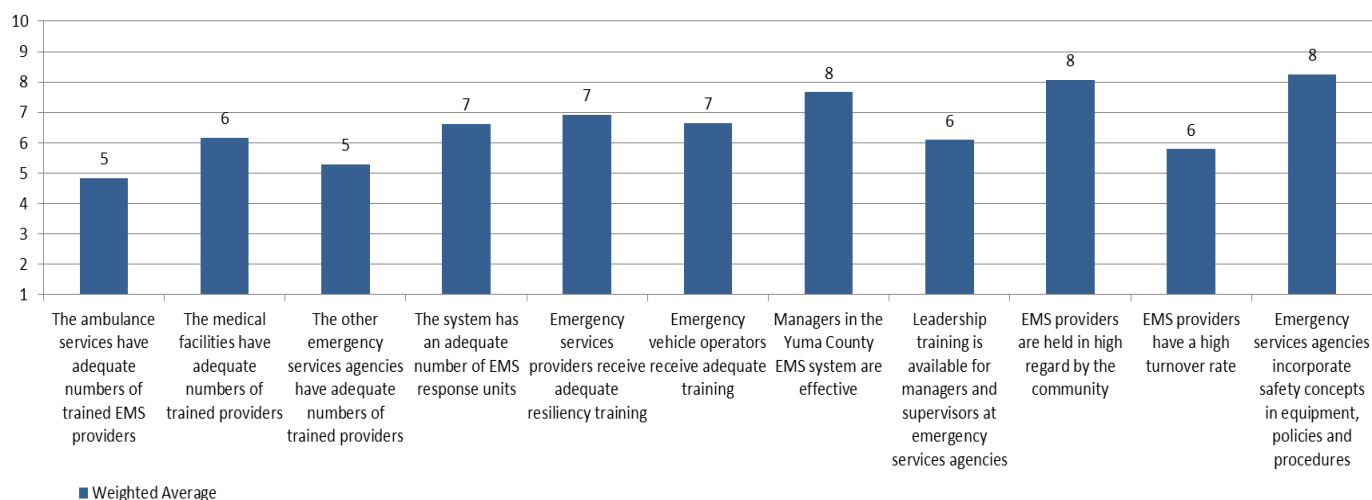
medical education to monitor and maintain ongoing provider competency. A property tax levy of 2 mills is sufficient to sustain consolidated operations without subsidy from local governments in Yuma County. A district will also provide a responsive organization with direct accountability to the electorate for finances and service levels.

Human Resources

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 37 of 41 Respondents



Human Resources

The ambulance services in Yuma County are staffed by a dedicated crew of volunteer and career providers. Their willingness to serve and personal knowledge of the community stand out as key components of the success of the emergency medical and trauma services system. These factors have been, and will continue to be, the foundation for how these agencies serve the community. The dedication, experience and commitment of both paid and volunteer EMS providers in Yuma County is demonstrated in the survey results and was also very obvious during the stakeholder interviews and discussions with members of the community.

Yuma County has four licensed ambulance services. Wray and Yuma are departments of their respective city governments and operated with a combination of paid and volunteer staff. Idalia and South Y-W are staffed entirely by volunteers. Together, there are 68 certified EMS providers including three paramedics, four EMT-Intermediates and 61 EMTs. There are an additional 38 emergency medical responders and drivers who assist the certified EMS providers. On the surface, it would appear the number of EMS providers is adequate however other demands limit the amount of time each volunteer is available to staff an ambulance. As is typical with volunteer emergency services systems, responsibility for the majority of responses fall to a minority of volunteers who are certified as EMS providers. This places a significant responsibility on individual providers to care for patients over an extended period of time where they are unlikely to have additional assistance at hand. EMS, fire and law enforcement personnel all work well together on scenes and the other public safety disciplines

are willing serve as ambulance drivers to a varying extent. Paid staff from Wray and Yuma help with training and assist the smaller agencies as available.

The current workforce is aging and there is a recognized growing need for new and younger volunteers. There are no formal recruitment or retention programs in any of the agencies. Most recruitment is by word of mouth as current members encourage friends or neighbors to join the services. Unfortunately, there are a limited number of people moving into the area, especially in the southern portion of the county. Those who do have limited time and financial resources to volunteer, much less travel long distances to attend a lengthy class to become certified as an EMS provider.

All of the ambulance services have a number of long term EMS volunteers. This core group of individuals helps to retain staff by bringing stability to the organization and assists with recruitment as a respected neighbor, friend, mentor or leader for other members of the community. They also represent a powerful constituency and an essential perspective to consider in any strategic decision-making process for the organization. Many of these individuals, both paid and volunteer, are nearing retirement and are concerned about the ability of the ambulance services to remain viable if they are not able to recruit younger members.

Personnel retention is always a challenge, especially in rural areas. Movement of the younger generation, in general, out of Yuma County has an adverse effect on retention. According to the state demography office, during the period 2010 to 2020, the 15-30 age range is projected to have a significant net migration from Yuma County. The EMS workforce is perhaps even more inclined to migrate from the area. Compensation for paid positions is not competitive with starting wages in the urban areas and creates a tremendous incentive to move to the Front Range where higher pay, shopping and other opportunities are more available. Generalizations regarding groups of people are difficult to document, but experience has demonstrated that many EMS providers seek the excitement and challenges of emergency services. The urban areas with busier systems offer more challenges and diverse clinical experiences. Low call volumes, along with an even smaller number of calls being serious enough to require transport, pose additional challenges for EMS providers. The low frequency of skill utilization often leads to a lack of self-confidence and decreased motivation to continue in the profession. There is a nursing shortage in the local hospitals for many of the same reasons.

The hiring methodology which has had the most success for retention of licensed or certified positions in rural and frontier areas throughout the state entails hiring local residents who have pursued additional education to get a license or certification and return to the community. This “grow-your-own” technique has met with more success when there are paid, rather than volunteer, positions to return to. These programs require a tremendous investment but many pay off with a loyal employee who serves the community for years.

Yuma County is fortunate to have such dedicated individuals to lead the ambulance services. Their devotion to serve the community is a strength of the system but the reliance on them is also a weakness and potential point of system failure. Both paid departments have strong, experienced leaders who consistently work extra hours covering response and on-call duties in

addition to their administrative responsibilities to keep the service functioning well. With limited numbers of advanced care providers, these full time paid paramedics shoulder almost all of the responsibility for providing advanced prehospital care. The volunteer departments struggle with having someone consistently available, not only to respond to calls but to manage the ever-increasing number of regulations, documentation requirements and other obligations required to maintain a functioning system. The workload is currently manageable for these individuals but it will not offer sufficient time to develop operating procedures, monitor billing, engage in strategic planning and perform other administrative functions essential to sustain the operation over the long term. There is also potential to suffer from emotional and physical exhaustion from the cumulative stress of the excessive workload (i.e. “burnout”). The system also risks the loss of irreplaceable institutional knowledge should one of these individuals separate from the service. While the survey indicates that the current managers are very effective, it also revealed that leadership training opportunities are not perceived to be readily available. Managers were not aware of specific leadership training opportunities but did not feel that this area of expertise was lacking in spite of the dearth of formal training.

Emergency services providers have a higher rate of suicide than the general population. The negative impact of critical incidents is responsible, in part, but the cumulative effect of stress on emergency services providers has emerged as a significant contributing factor. Resiliency training becomes increasingly important as the numbers of providers decrease and the likelihood of caring for critically injured or ill friends and relatives increases. In the survey, the ambulance services also scored high in the use of safety concepts for operations and equipment purchases although the adequacy of training for emergency vehicle operation was rated lower. None of the agencies indicated that formal emergency vehicle operations training was required, the course is only offered in the county occasionally and is not readily available to the smaller volunteer agencies.

Recommendations

- ✱ The ambulance services work well together but could potentially benefit from sharing resources to help with developing policies and resources to address some of the organizational needs and concerns identified in the survey and comments expressed by members of local EMS community.
- ✱ Consider opportunities for cross training between fire, law enforcement and EMS to enhance relationships and improve availability of time-sensitive interventions.
- ✱ Enhance EMS provider retention through increased provider confidence and job satisfaction.
 - Create training opportunities for EMS providers focused on critical skills used infrequently on high-acuity patients. Identify critical skills, assess provider confidence with skill performance and design training to develop skill mastery using learning principles developed by other health care disciplines, the military, law enforcement and fire services.
 - Create training opportunities for EMS providers to work collaboratively with other emergency medical professionals with a higher level of training or education. Schedule

EMS providers to work in the hospital emergency department to enhance skills, develop professional relationships and better integrate with the continuum of medical care.

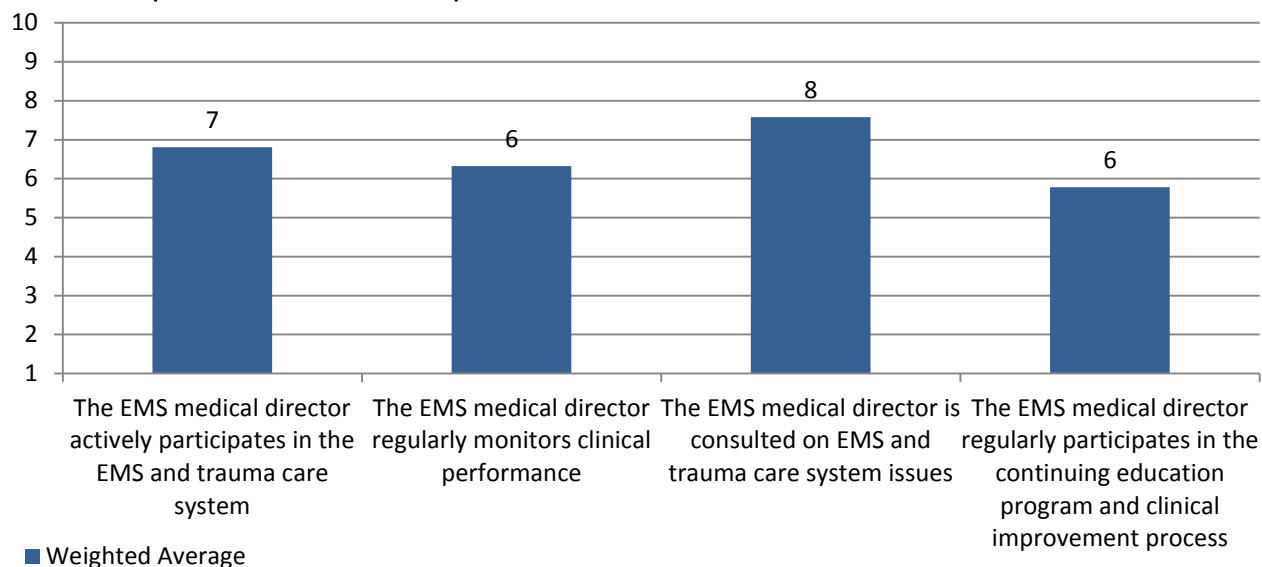
- Consider creating part-time positions in the emergency department at the hospitals for EMS providers to support the hospital staff during periods of high demand. Emergency departments at hospitals throughout the nation use EMS providers of all levels as a staffing resource. As coworkers, the hospital staff and EMS providers will develop professional relationships, mutually assist and support one another within their scope of practice and enhance skills for EMS providers in a clinical environment under the supervision of higher-level medical staff.
- ✱ Positive recognition of personnel who perform quality work is important but there is an additional dimension with respect to emergency services volunteers. They are called away on a moment's notice and forego sleep, time with loved ones or shift workload to other employees at their regular employer. These volunteers could not serve without the support of their families, friends or coworkers and appreciation for this support system is just as essential. The emergency medical and trauma services agencies should refine current recognition programs and create new offerings to acknowledge the contributions from EMS providers, their families and employers to enhance EMS provider retention.
 - Formal recognition such as Volunteer of the Year, Most Hours On-Call, Most Supportive Family or similar accolades can prove to be beneficial.
 - Collaborate with local media to get articles in the newspapers or radio reports about the service and, most importantly, specific individual's contributions.
 - Gatherings such as dinners, potlucks or picnics to recognize agency personnel and their families, and build relationships outside the demands of emergency services.
 - Use newsletters, social media posts and other media to provide information about the service and the people providing service.
 - Maintain a high quality, current website including information on agency activities and photos of personnel and equipment.
 - Post bar charts with the number of hours on call or other measures and award incentives for reaching certain milestones.
- ✱ The ambulance service directors have accumulated a substantial volume of institutional knowledge during their respective tenures. It is important for each of them to catalog this knowledge so that it may be passed on to others in case of their absence or separation from the organization. Each ambulance service director should create an accessible record of tasks or procedures and standard operating guidelines to serve as a reference for successors, supervisors and delegates. Likewise, the ambulance services need to create a resilient organizational structure to maintain continuity in case key personnel are absent or separate from the organization and assist the with coordination of services.

Medical Direction

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Medical Direction

Each ambulance service in Yuma County currently has its own medical director. The medical directors for Idalia, South Y-W and Wray ambulance services practice at Wray Community District Hospital. The medical director for Yuma Ambulance practices for Yuma District Hospital.

Dr. David Reed is Board Certified in Family Medicine and serves as the medical director for Idalia Ambulance Service. He is originally from Wyoming, attended medical school at the University of Utah and completed his family practice residency in Greeley while spending two years at the Wray Clinic. Dr. Reed worked in Wyoming for three years before relocating his practice to Wray in 1999. Idalia does not have a regular schedule for ongoing contact between the medical director and field providers, or routine continuing medical educational (CME) activities with him. The medical treatment protocols were revised recently although the consultative visit team did not receive a copy to determine if they are in full compliance with current state EMS rules and adequate for the agency's needs. There is no formal quality management process involving the medical director and no quality issues or concerns were reported by the field personnel or ambulance director. The staff has met Dr. Reed and expects that they would just contact him directly if an issue did arise.

Dr. Lindsey Paulson is Board Certified in Family Medicine and serves as the medical director for South Y-W Ambulance Service. She is originally from Monte Vista, completed her undergraduate degree at the University of Denver, medical school at the University of Colorado and finished her residency in Family Medicine in Greeley. Dr. Paulson moved to Wray in 2010 to start her practice in Wray. The staff at South Y-W described Dr. Paulson as responsive but expressed a desire to have more personal interaction with her such as periodic

teaching or case reviews. Although she has not been physically present the staff felt she was available if they need anything and could contact her directly if an issue did arise. It is unclear when the medical treatment protocols were last reviewed. The consultative visit team did not receive a copy to review and determine if they are in full compliance with current state EMS rules and adequate for the agency's needs. There is no formal quality management process involving the medical director and no quality issues or concerns were reported by the field personnel or ambulance director.

Dr. Monte Uyemura is Board Certified in Family Medicine and took over as medical director for Wray Ambulance in 2016. He is originally from Greeley, attended medical school at Northwestern University and completed his Family Practice Residency in the United States Army. Dr. Uyemura moved to Wray in 1996 to establish his practice. The field personnel report that they have had limited contact with Dr. Uyemura although he has facilitated crew debriefings and provided patient follow up for the more critical and complex cases. It appears that his primary point of contact is through the ambulance director who typically contacts him when needed. On average they talk on the phone monthly. When a concerning call or situation arises, contact is typically initiated through email followed up with a personal meeting if the situation dictates. Despite Dr. Uyemura's busy schedule he has been accessible and very responsive to the ambulance director. The current medical treatment protocols were adopted from various sources to meet local needs and were reviewed when Dr. Uyemura took over as medical director in 2016. They do appear to comply with state EMS rules. The protocols were readily accessible by the crews and appear to be current and appropriate for the service needs. Regular skills verification is performed at monthly CME offerings or staff meetings overseen by the ambulance director. Dr. Uyemura typically relies on the ambulance director to advise him whether there are any issues with a field provider. Dr. Uyemura is available to meet the basic needs of Wray Ambulance but the staff expressed more scheduled and regular personal interaction such as quarterly case reviews would be valued by the providers and would provide an opportunity for the providers to get to know him and vice versa.

Dr. Matthew Nowland has been the medical director for Yuma Ambulance Service for eight years. He grew up in rural Missouri, received his medical degree from the University of Missouri School of Medicine, and completed his residency in Family Medicine at Poudre Valley Hospital in Fort Collins. Dr. Nowland joined the Yuma District Hospital medical staff in 2002. Dr. Nowland primarily interacts with the ambulance service through the agency director who keeps him apprised of EMS issues, protocol refinements needed and quality improvement concerns. Currently, there is no formal mechanism to bring clinical concerns directly to the medical director nor is there a formalized quality management process in place involving the medical director. Dr. Nowland is receptive and reviews charts in a timely manner whenever he is presented with a quality concern. Both the ambulance director and field personnel expressed they would like to have more personal contact with their medical director and would benefit from more regular continuing medical education activities such as quarterly case reviews.

None of the physicians supervising the ambulance services in Yuma County have formal medical direction training, although Dr. Nowland has a basic understanding of prehospital medicine and the unique challenges faced by EMS provider through his work as an EMT during

college. The medical directors also do not receive any compensation for the medical direction services they provide to the ambulance services. The medical directors do not actively participate on the Northeast Physicians Advisory Board and were not familiar with the resources available to provide support through the regional medical direction program or the state Emergency Medical and Trauma Services Branch.

Recommendations

- ✱ Initiate communication and collaboration between the EMS medical directors in Yuma County. Enhanced cooperation between the medical directors will help to ensure care is provided consistent with community expectations everywhere in the county, enhance quality of medical direction through sharing of best practices and reduce duplicative efforts.
- ✱ Consider unifying medical treatment protocols for all agencies in Yuma County. Standard, countywide protocols provide a number of benefits. First and foremost, they establish a uniform standard of care for all patients encountered by EMS providers consistent with the expectations of the local health care community. The majority of EMS protocols are developed based on the scope of practice for EMS providers as established by regulation and share common elements. Standardizing protocols that comprise the core of EMS practice reduces the amount of time each agency medical director must devote to protocol development. Consistent protocols also simplify on-line medical direction. The physician in contact with EMS providers in the field only has to be familiar with one set of protocols to provide sound advice consistent with EMS scope of practice and the principles of patient care established by the agency medical director.
- ✱ Case review education is one of the most beneficial modalities to provide training for EMS providers and does not require an onerous amount of preparation. Medical directors should strive to make this option available as well as attend and lead these activities personally. The medical directors and EMS leadership should consider coordinating case review trainings to include providers from the communications center, ambulance service, air medical and hospitals who participated in caring for a patient. In addition, conducting case reviews in a location where providers from multiple agencies can attend creates opportunities that facilitate both simultaneous learning and camaraderie between the providers.
- ✱ Assure effective, formal quality management for all facets of the emergency medical and trauma services system in Yuma County that includes regular participation from the medical director. This includes clinical aspects such as pre-arrival instructions to the public from emergency medical dispatch personnel and treatment protocols for EMS providers but also operational considerations such as determinants to categorize the level of response to calls for service or participation in the selection of personnel. Programs should be designed to include all of the elements required by statute to take advantage of the protections for quality management programs.
- ✱ Provide expert guidance and support for the medical directors. The EMS medical directors throughout the NCRETAC have formed the Northeast Physicians Advisory Board (NEPAB) to facilitate peer communication, provide resources to help agency medical directors do their job better, facilitate regional EMS quality management activities, promote standardization of protocols for consistent levels of service and training for EMS providers and facilitate communications with the local health care community. The Yuma County EMS medical

directors could benefit from actively participating in this physician advisory board where issues unique to physicians practicing in the nine counties of northeast Colorado are discussed. Participation in NEPAB will help the medical directors develop a network of colleagues and make better use of resources offered by the regional medical direction program to keep them current on EMS scope of practice, OATH registration and other regulatory requirements, protocol development and other topics.

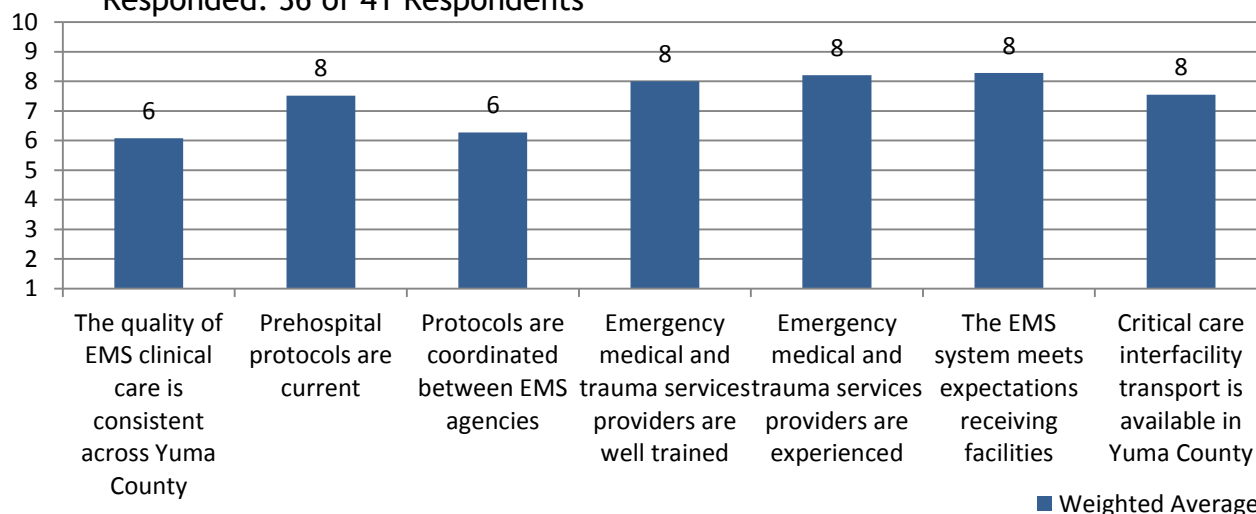
- ✱ Connect with the state EMS medical director and make use of resources available through the department to support agency medical directors. Many resources are available on line on the Emergency Medical and Trauma Services Branch website at www.coems.info. This page also links to information about activities of the Emergency Medical Practice Advisory Council (EMPAC), the group that advises the department on regulations governing the practice of EMS providers and requirements for EMS medical directors.
- ✱ All of the medical directors wear many hats and have been generous with their time to serve the community by supervising the EMS providers. However, they should consider further formal training, when possible, such as completion of an EMS Medical Directors training course through the American College of Emergency Physicians, attendance at the Medical Director's Forum at the state EMS conference or other programs to build the skills to effectively provide EMS medical oversight.
- ✱ Consider consolidating medical direction workload by having one dedicated medical director at each hospital to collaborate and standardize EMS care across the county. This might serve to provide consistent levels of service, educational opportunities and medical oversight. There are a variety of models for countywide medical direction across the state including consensus among the EMS providers and medical practitioners in the community, selection by a county emergency services council and appointment by the Board of County Commissioners. Consolidating medical direction may increase workload for the individuals at each facility responsible for medical direction, and a variety of models exist to accommodate these demands. Communities with volunteer medical direction sometimes rotate the position among the physicians in a community with each taking on the additional EMS duties for a period of time while other practitioners shoulder increased patient loads. Another alternative is to have one physician serve as the lead and coordinate components of the process assigned to associate EMS medical directors. Compensated models include a base hospital incorporating EMS medical direction into the physician's assigned duties, paying a fixed amount for medical direction during a specified period of time or by some measure of requests for service.
- ✱ None of the EMS medical directors receives compensation for services. If the current model for medical direction is continued, the EMS community should consider some type of financial stipend. The physicians currently providing medical direction have very busy practices without their EMS responsibilities and a stipend may compensate them for their commitment or least convey gratitude for the time they devote to EMS.

Clinical Care

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Clinical Care

Emergency medical services (EMS) systems provide access, instruction, emergency response, patient care and transport to a medical facility for those with a real or perceived emergency. When appropriate and available, the local EMS agencies provide emergent and non-emergent transportation to regional centers with higher-level care and centers of excellence for specialty care. Immediate availability and mobility is what distinguishes EMS from other components of the health care system.

Stakeholders generally felt that the clinical care was very good at both the basic- and advanced-life-support levels in the ambulance agencies. All of the full-time personnel, who comprise almost all of the ALS providers, are primarily located in the northern portion of the county around Wray and Yuma, and these services routinely staff at least one ambulance at the paramedic level. Some volunteer providers are certified to perform advanced level care although they have limited availability due to other employment responsibilities. As a result, ambulances in the southern portion of the county are more likely to be staffed at the EMT level. Local fire departments do not routinely respond with the ambulance on medical calls but a limited number of fire department volunteers have some medical training. In spite of the small number of advanced providers, the majority of prehospital care in Yuma County is provided at the advanced level. The appropriateness of EMS clinical care in Yuma County was not evaluated directly as part of this site visit and no chart reviews were conducted. No specific clinical weaknesses were revealed at any emergency medical and trauma services agency for this review and cases were not dissected to gain opportunities to improve.

The small number of advanced EMS providers currently limits the ability to offer higher-level services to the entire county. Training additional paramedic personnel offers the greatest utility but there are significant impediments to pursuing this alternative. Colorado only has

nine state-recognized paramedic education centers, none near Yuma County, and the paramedic educational program takes between 8-16 months to complete.

The general coverage pattern reflects the population base with longer response times seen in the more rural portions of the county. Overall, the reported dispatch to en route times and dispatch to on scene times in Yuma County are reasonable and on par with agencies using a comparable service delivery model serving communities with similar population and geographic characteristics.

In addition to access via the 911 universal emergency number, the proximity and availability of EMS response is also a critical factor. Considering the placement of ambulances in Idalia, Kirk, Wray and Yuma, the residents of Yuma County are reasonably close to an ambulance base considering population density and geography. Availability of service, however, is a bit more sporadic. While Wray and Yuma usually have at least one identified crew on duty, this level of coverage is not universal. Idalia Ambulance and South Y-W Ambulance, by contrast, have very low call volumes and typically do not identify duty crews. Instead they rely on volunteer providers to make themselves available when calls occur. While this approach is reasonable, it would be helpful for Wray and Yuma to have additional response capacity identified to help ensure reliable 911 response countywide. Additional capacity also bolsters the ability to provide interfacility transport services. It would also be wise for all of the local ambulance services to agree on automatic aid procedures that would ensure a rapid and guaranteed response from one of the services in the event a crew cannot be immediately mustered from the service originally dispatched. An automatic aid procedure would improve timeliness of response, improve interagency cooperation and reduce dispatcher workload and stress. In the event automatic assistance is not needed, it can easily be cancelled if a closer crew is able to respond.

Field Activation of Air Medical Services

The availability for scene response by air medical increased significantly when a helicopter ambulance was based in Akron and another established based in Hugo. Flight times to scenes in most of Yuma County are now short enough that air medical can realistically be used to transport critical patients directly from the scene to definitive care. Appropriate use of air medical services will become more important as additional air medical bases are expected in northeast Colorado. The ambulance service protocols do not provide a detailed outline of the indications and procedure for activating a scene response for an air medical helicopter.

Protocols

Medical treatment protocols are variably available and utilized throughout the county. The two busier agencies, Wray Ambulance and Yuma Ambulance, have the most robust and current protocols. The protocols are derived from regional resources and adapted to fulfill local needs. The smaller agencies could benefit from resource sharing with the larger agencies and the county as a whole would likely benefit from more standardized protocols.

Other Emergency Response Agencies

Fire departments throughout Yuma County normally are only called to respond for motor vehicle crashes unless requested by the ambulance service for other calls. An ambulance is called to stand-by at fire scenes or as requested by the fire department for other situations.

Interfacility Transports

About 28 percent of the ambulance call volume is interfacility transports. Virtually all of these requests are accomplished by the agencies based in Wray and Yuma. Interfacility transports generate a large portion of the revenues for these two ambulance services. Ground ambulances are typically staffed by a paramedic although a registered nurse from the hospital will supplement the ambulance crew in the rare case where a particular patient requires care that surpasses the scope of practice for the available EMS providers. Transport decisions appear to be based more on the availability of a particular resource rather than through a collaborative process involving the transport agencies.

EMS Dispatch

EMS dispatch services are handled by the Washington-Yuma Combined Communications Center. An emergency medical dispatch protocol is utilized that arrives at a determinant to identify appropriate EMS resources and mode of response needed for the incident. The emergency response agencies in Yuma County have not assigned resources and a mode of response to these dispatch determinants to guide responding agencies. The communications center is also prepared to offer citizen bystander CPR instructions in those cases that are presumed cardiac arrest. There is no retrospective review of dispatch records by a healthcare professional to assess compliance with emergency medical dispatch protocols. Incoming 911 calls and communications between dispatch and response units in the field are recorded. Radio and wireless telephone communications between field providers and medical control at the hospitals are not recorded.

Use of Lights or Siren during Response or Transport

More than half of scene responses for the ambulance services in Yuma County do not involve an emergency (lights and/or siren) response. Emergent returns to the hospital comprise about 13 percent of calls. Operating an emergency vehicle with lights or siren during response or patient transport is associated with a higher risk of being involved in a traffic crash. The ambulance services are to be commended for utilizing non-emergent transport mode the majority of the time, but there are ample opportunities for reducing the use of lights or sirens overall through a collaborative effort between the communications center, ambulance services and medical direction.

EMS Vehicles

The ambulance fleet in Yuma County is composed entirely of conventional Type I and Type III ambulances constructed by final stage manufacturers registered with the National Highway Traffic Safety Administration. Usage varies across the fleet with very low mileage on the units in the southern portion of the county despite their advanced age.

Recommendations

- ✱ Consider developing a common set of medical treatment protocols that would be used by all ambulance services in Yuma County. These can be derived from the protocols offered through the NCRETAC that are regularly reviewed and updated to maintain compliance with state rules and stay current with industry practice.
- ✱ Consider early dispatch of air medical for critical patients, or patients likely to require a higher level of care. This could include dispatch directly to the scene in circumstances such as motor vehicle crashes with significant mechanism or cardiac chest pain in the less accessible parts of the county. This should also include early dispatch to a facility when patients are identified as having a time-sensitive condition requiring tertiary care such as polysystem trauma patients, STEMIs and strokes. All emergency medical and trauma services organizations in Yuma County should use a standard protocol for activation of air medical services, provide consistent training for its application and review each activation for appropriate utilization by a multidisciplinary team through a joint quality management process. The regional medical direction program for the NCRETAC can provide technical assistance with development of protocols designed for the benefit of patients, based on the circumstances specific to Yuma County.
- ✱ Develop an interfacility transport protocol to better leverage all transport resources available to the county. Consider creating cooperative agreements to share personnel, vehicles or other resources among the ambulance services to reduce the burden of interfacility transports on the local providers. This could be as diverse as using a vehicle operated by one of the volunteer services staffed by critical care providers from an air medical service based in the area. The cooperative agreements should also assign the responsibility for billing and the method for allocating revenues based on the resource that was contributed to the response.
- ✱ Unrestrained vehicle occupants are at significantly greater risk of injury or death, and pose a risk to other vehicle occupants, in the event of a crash. All ambulance services in Yuma County should have written policies that require occupants in the front seat of any emergency vehicle to be restrained by a seat belt and shoulder harness any time the vehicle is in motion. Further, any patient or other person riding in an emergency vehicle must be properly restrained any time the vehicle is in motion. This includes the use of all cot straps as designed by the manufacturer. Finally, both services should develop a culture of safety that emphasizes use of shoulder and seat belt restraints for any provider in the patient care compartment as much as possible. This culture emphasis should include promoting the concept of implementing the vast majority of patient care interventions when the emergency vehicle is stationary, facilitating the use of restraints when the vehicle is in motion.
- ✱ Use of emergency lights and siren should be minimized during scene response and patient transport by ambulance services operating in Yuma County. The usage rate is already low but may be reduced further for scene responses by EMS medical direction and agency leadership working with the communications center to assign an appropriate response mode configuration to each emergency medical dispatch determinant. Response mode configurations should identify the specific agencies that are needed to effectively manage the incident type and the response mode, emergent or routine, appropriate for each unit. Emergency patient transports can be decreased further through careful review of current practice to ensure lights and sirens are only used for the limited number of patient conditions that would benefit from emergent transport to the hospital. Incorporate

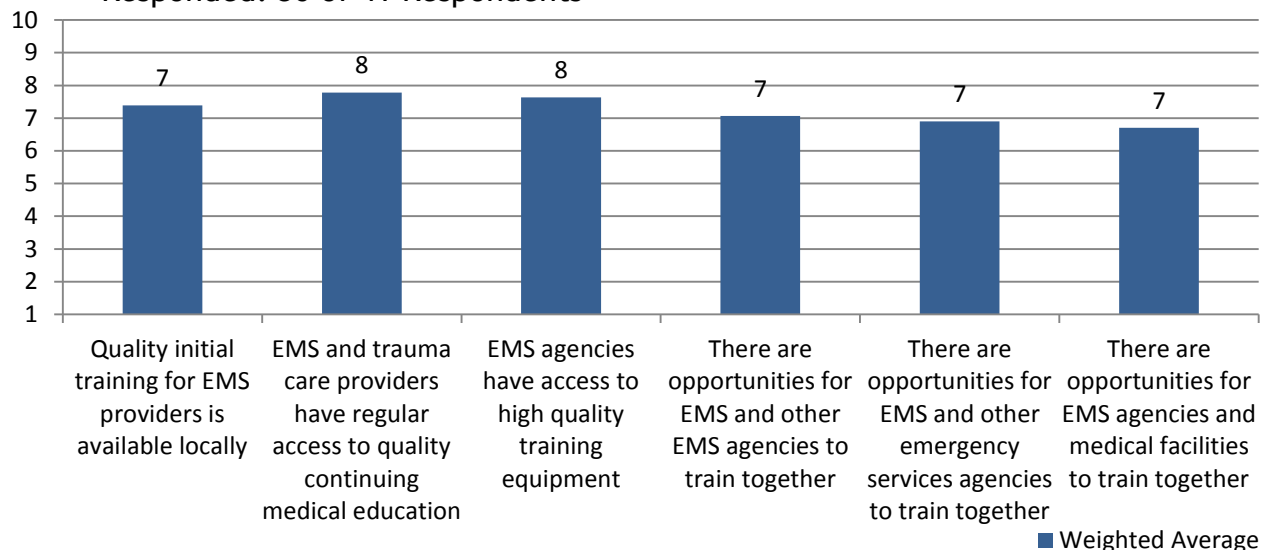
dispatch response mode recommendations into the training for providers in all emergency response agencies to reduce unwarranted use of lights or siren. Medical oversight should include dispatch quality management review, compliance with response mode configurations and ongoing evaluation to assess effectiveness of response mode configurations.

Education Systems

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Education Systems

Rural communities typically struggle to supply initial training and continuing education for emergency medical and trauma services providers. Meager financial resources make it difficult to pay the cost of tuition, instructors and educational materials or purchase and maintain sophisticated training equipment. It is often a challenge just to maintain continuous service to the community during educational sessions with limited staff.

All emergency medical and trauma services agencies in Yuma County are eligible for training grants through the Colorado Resource for Emergency and Trauma Education (CREATE) program administered by the Colorado Rural Health Center. CREATE accepts applications monthly throughout the year to help fund tuition, required fees, books and travel expenses. Grants require a 50 percent cash match unless the applicant requests a waiver and can demonstrate financial need. These grants have helped agencies across the State of Colorado to train new providers, upgrade skills for existing personnel and maintain credentials to comply with regulatory requirements.

The cost and location of initial training opportunities is an ongoing concern in Yuma County. There are no state-recognized programs that can offer initial training for EMS providers based in the county. Yuma County is in the service area assigned to Morgan Community College (MCC) and most of the initial EMT training is provided on an outreach basis. Northeastern Junior

College has also offered initial EMT training in the past. Courses offered through the community college system are increasingly expensive and MCC has not been successful with its requests for grant funding to subsidize the cost of these courses recently. Tuition, books and fees were about \$2,800 for the last initial EMT training offered through MCC. Wray and Yuma try to schedule an EMT class locally every two years but have had trouble finding the minimum number of students required by the college to provide the class. MCC offered an initial EMT course in the spring of 2017 but no one signed up for the class. As an alternative, UCHealth-Memorial Hospital offered an initial EMT course in the fall of 2017 at a cost of \$700 per student. Twelve students started the class, eight students completed it, but only one student took the National Registry examination and became certified. The success rate for this course was far below the state average. The class was taught locally, which helped, but still required many students to travel long distances from remote areas in the county. The students who did not complete the course expressed doubt that they could continue to devote enough time to volunteer as an EMT.

State-recognized continuing education is available for EMT, Advanced EMT, EMT-Intermediate and paramedic personnel at all four ambulance services under the auspices of the High Plains Regional EMS Council program based in Akron. Wray Ambulance has its own state-recognized continuing education for all levels of EMS providers as well. Continuing education is offered primarily in house and local offerings are just adequate for basic-level providers to maintain certification. Continuing education requirements for the advanced-level EMS providers are more extensive. Standard courses such as ACLS and PALS that require renewal every two years are offered locally, usually in conjunction with the hospitals, but are not sufficient for the advanced providers to maintain competency or certification. This small cadre of providers must travel out of the area to acquire enough hours in the required topic areas. The agencies appear to be supportive of more diverse education opportunities and encourage EMS providers to attend regional or statewide conferences, although many are too far away and require too much time away from work and home for volunteers to attend. Continuing education is usually presented by one of the advanced providers or via on-line training. Yuma County has a strong broadband system that is very beneficial for delivering educational content on-line in outlying areas.

High-quality training equipment is readily available but continuing education typically does not include case reviews or other content presented by the medical director. Joint training opportunities between EMS agencies, fire departments, law enforcement departments and the hospitals exist but attendance is sporadic and not consistent between all agencies. There are no formal field training programs to orient and verify the competency of new EMTs or paramedics at any of the agencies. Emergency vehicle operation (EVO) courses are offered occasionally but are not widely available to the smaller agencies. A community paramedic program has been discussed but not pursued due to staff limitations.

Professional nursing education is not available in Yuma County. The closest programs are between 60-90 miles away at Morgan Community College or Northeastern Junior College. It was reported that students from Yuma County have had difficulty being accepted into those programs over the past few years. The hospitals have allocated sufficient resources to ensure their staff is able to maintain competency and required credentials. The hospitals do not have

a structured training program for developing new managers but the management staff has had access to some leadership training.

The public schools in Yuma County are generally supportive of EMS-related education. For example, the school in Idalia is scheduling an emergency medical responder (EMR) class in the high school next year and actively participates in active shooter drills in the school as well as providing classes and information to their community on fall prevention and bicycle safety including providing helmets.

Recommendations

- ✱ Cultivate relationships with the air medical and critical care teams serving the region to serve as a resource for continuing education.
- ✱ Link continuing education programs to the quality management process. The existing continuing education processes appear to cover the requirements to maintain credentials but connecting the two processes will advance the agencies to the next level where education can reinforce existing strengths and bolster identified weaknesses in the system as well as for individual providers. This is particularly important for advanced-level providers who may be performing higher-level skills infrequently based on the relatively low volume of patient contacts.
- ✱ Consider coordinating EMS continuing education activities among the ambulance services. Shared efforts can enhance the quality of education by using instructors with special expertise to present specific topics regardless of their agency affiliation. Working together on EMS continuing education can also avoid duplicative efforts such as presenting similar topics by two different instructors at about the same time. Coordinated education also creates an opportunity for providers from different agencies to train together and improve operations on responses with multiple agencies.
- ✱ Work with the community colleges to improve access to initial EMS provider education to increase the number of trained providers. Contact candidates for EMS provider training to identify course schedules and delivery methods that compliment other obligations in students' lives. Collaborate with the initial EMS training program to leverage educational resources through distance learning for didactic content and distributed instruction of laboratory and clinical experiences. Cooperate with other ambulance services to coordinate course offerings to minimize instructor costs using virtual classrooms to serve a greater number of students than can be reached in a traditional classroom environment. Request in-district employer-sponsored courses and negotiate more favorable cost for non-credit courses. The ambulance services in Yuma County all have limited financial resources and would likely be eligible for a waiver to reduce the matching funds required for CREATE training grants.
- ✱ Work with the community colleges to improve access to professional nursing education to increase the number of trained nurses. Partner with nursing education programs by establishing favorable clinical site agreements and providing additional education for the current nursing staff to better qualify as nursing preceptors during student clinical experiences. Collaborate with the nursing program admission staff to identify the impediments to acceptance that have reduced the number of students from Yuma County entering the nursing program. Focus on nursing program admission criteria that can be influenced. For example, tutor applicants to achieve higher course grades in Biology 201, provide supplemental preparation to maximize scores on the English language section of

the Kaplan nurse entrance test and hire applicants to demonstrate prior paid nurse aide work experience to optimize points towards the competitive process for admission to the Morgan Community College nursing program.

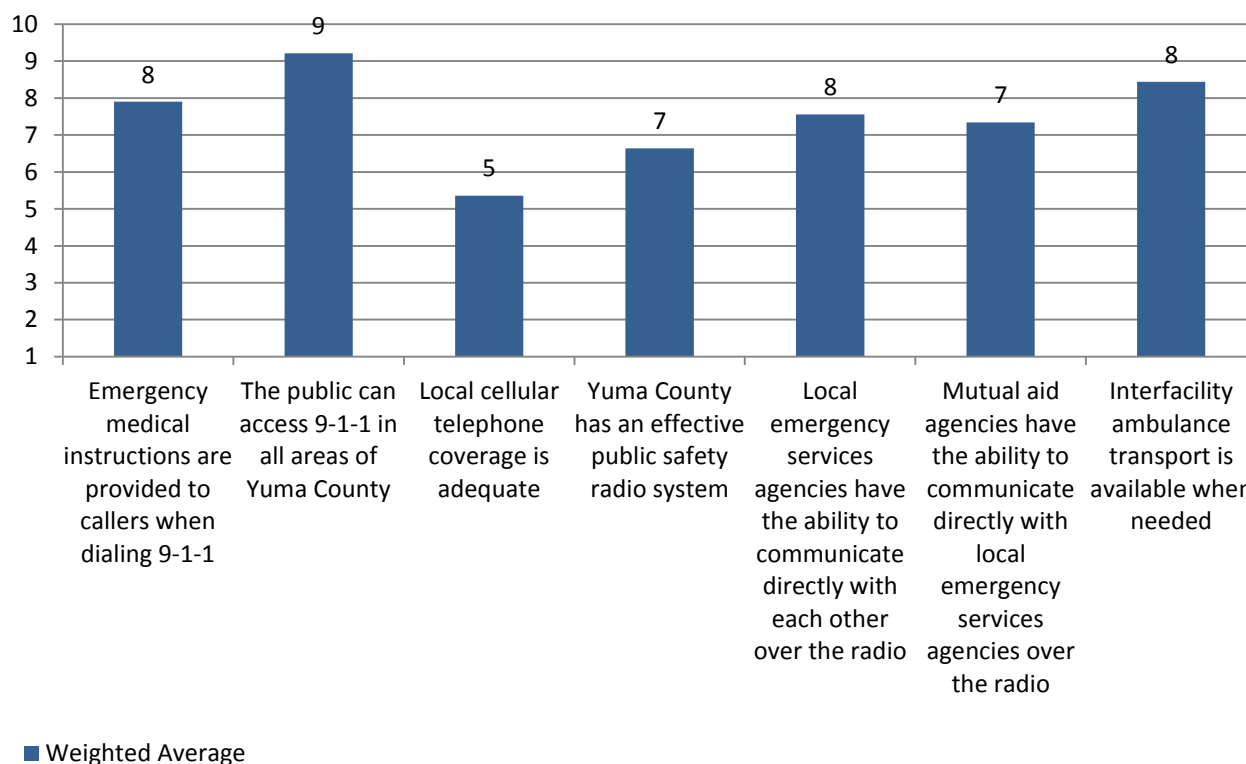
- ✱ Take advantage of industry-specific leadership and management training for the ambulance service directors. The ambulance service directors are experienced and, from all appearances, they have performed well. However, it is important that they each receive the necessary tools to guide and help with the multitude of issues that even experienced ambulance service managers face. Initially consider course offerings like the National Fire Academy-Management of Emergency Medical Services, American Ambulance Association-Ambulance Service Management, Northwest RETAC EMS Leadership Conference and the National Rural EMS Conference and provide funding, travel, backfill or other support necessary for the director to attend.
- ✱ Review scheduled emergency medical and trauma services education and evaluate opportunities for funding assistance. Make use of resources from the Colorado Rural Health Center, Morgan Community College Financial Aid office and NCRETAC to help identify grants and scholarships available to providers serving Yuma County.

Public Access and Communications Systems

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Public Access

The Washington-Yuma Combined County Communications Center is the designated public safety answering point for the county. Enhanced 911 service is available and the communications center can receive automatic number identification and automatic location identification information from all telephones in the county connected to the wired telephone network. Respectable wireless telephone service is available in most parts of the county with notable exceptions in the eastern and southeastern sand hills. Dead zones without service are scattered across the county and vary by mobile telephone carrier. Viaero, a regional wireless carrier, covers the area reasonably well as does Verizon. Viaero also maintains agreements with AT&T and T-Mobile to both provide coverage to those carriers within their service area and allow Viaero customers to roam on those networks when traveling outside the area. Phase I Wireless Enhanced 911 service, with name, telephone number and location of the cellular tower connected to the caller, is available for all wireless calls. The communications center has the capability to use Phase II Wireless Enhanced 911 service if the mobile telephone carrier can provide latitude and longitude coordinates for the caller. Text to 911 is not yet available in Yuma County.

Addressing is an access issue that was discussed by multiple stakeholders. While the county has a comprehensive addressing system inclusive of the incorporated municipalities, there were concerns that the communications center was not always able to verify addresses or obtain location verification through other factors. The extent of this issue was not quantified but the system should have the data to determine how many times verified locations were bypassed by dispatchers in the CAD system.

Communications Systems

The Yuma County emergency medical and trauma services system relies on multiple communications systems for daily use and interagency coordination. Beginning with interagency communication it is apparent that key leaders within the public safety community, including all of the ambulance service directors, have mutual respect for each other, communicate regularly and do so both formally and informally. It cannot be stressed enough that these relationships are a critical component to the success of the system and will be instrumental to further improvements.

Yuma County uses the statewide digital trunked radio system for public safety communications and responder notification. Radio coverage for this system is considered to be adequate. Coverage issues were noted in some parts of the county, particularly the sand hills in the far eastern portions of the county where the topography was problematic for radio coverage. What was most concerning, however, was the spotty coverage in Kirk where portable radios frequently lose coverage around the South Y-W ambulance base. The communications center has no way to determine if the lack of acknowledgement for an ambulance page is due to this known problem radio system deficiency or if there are no personnel available to respond. Further, there is no standard procedure to notify the mutual aid agency if the primary response agency does not acknowledge a page. The Washington-Yuma Combined Communications Center provides dispatch services for EMS and all other public safety agencies serving the county. As noted earlier, the commercial mobile telephone network coverage was

as good as or better than DTRS radio coverage with some variability between carriers. Text messaging is being used successfully to notify EMS responders of calls with some minor issues that are being worked on. Mobile broadband coverage is also available in the area; however, it was uncommon for the local ambulance services to have in-vehicle networks connected to mobile broadband. Most EMS providers indicated they could complete patient care reports in the mobile environment if necessary. The communications center does not have the capability to contact emergency response units from Kansas or Nebraska directly by radio. Information must be relayed through the appropriate dispatch center by telephone. All ambulances within the county are equipped with mobile radios to communicate with the communications center, other emergency response units and the hospital or medical control physician. The hospitals and ambulance services appear to have adequate radio equipment and the system affords interoperability among all local public safety agencies. Communications between field units and the hospital emergency department for medical direction or patient reports use the talk group assigned to the respective facility on the statewide digital trunked radio system or a telephone line that rings through directly to the emergency department. All EMS radio channels, including those used for on-line medical control are recorded at the communications center, but the direct telephone lines are not and conversations cannot be reviewed for educational purposes, compliance audits, case studies or quality management.

Considering the recent award of the nationwide FirstNet public safety mobile network contract to AT&T and Colorado's decision to participate in the system in December of 2017, it is likely that AT&T service with the corresponding public safety priority and preemption components will become available to Yuma County public safety providers and local hospitals. It is also expected that Verizon, and potentially other carriers, will also offer competitive public safety services with similar priority and preemption capability. Over time it is also likely that these services will replace the DTRS system for push-to-talk radio type applications.

Recommendations

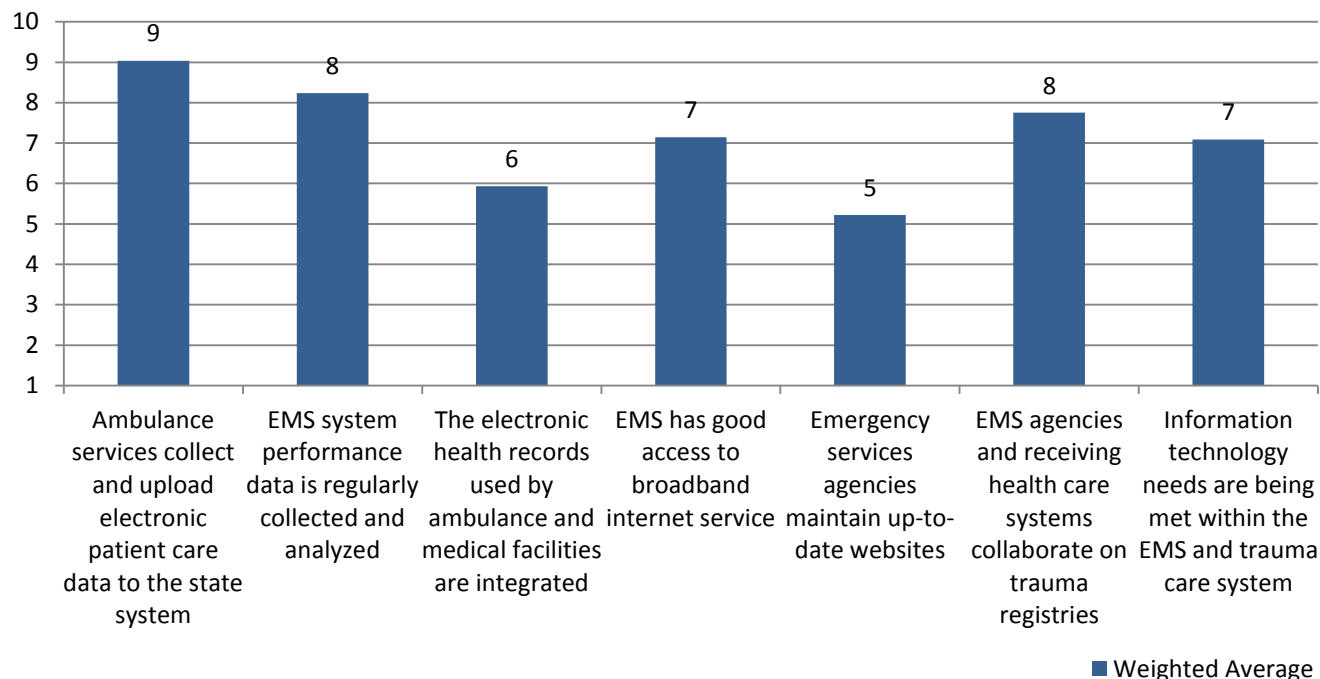
- ✱ Identify the number of times verified locations are bypassed by dispatchers in the CAD system and review current procedures for location verification. Revise procedures as indicated to verify caller locations to avoid response delays.
- ✱ Enhance recording capabilities to capture communications on all telephone lines used for communications between field providers and EMS medical direction. Improve capabilities to manage and maintain recordings for quality improvement activities and risk management.
- ✱ Develop a resilient communications system that can act as a failsafe and has the ability to provide communications in areas where the 800 MHz system is not functional.
- ✱ Develop a response configuration identifying the agency and response mode appropriate for each emergency medical dispatch determinant, create a standard quality improvement review process and assess for compliance with response mode guideline to prehospital scenes.
- ✱ Stakeholders should keep abreast with development of the FirstNet public safety mobile network and trial new devices or services as they become available to determine if they enhance communications capabilities.

Information Systems

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Information Systems

The Yuma County emergency medical and trauma services system is generally using current technology for patient care reporting and data collection. All licensed ambulance services in the county use the ImageTrend electronic patient care report system provided by the State of Colorado and are current on state data submission requirements. Most of the hardware systems currently deployed for this use are aging and inefficient. Currently, there is no real time or after the fact computerized sharing of data between the ambulance services agencies and local facilities. Patient follow up and billing data are shared upon request using methods that are not digitally integrated. The Yuma County Communications Center records call information using a modern computer-aided dispatch and records management system. The CAD system is not fully integrated with the ambulance patient care reporting system to directly populate the pertinent fields with dispatch information. Yuma County has reasonable broadband Internet access in most areas.

Both hospitals have current web pages that are easy to navigate and provide a variety of information about the district, services, facilities, a patient portal, employment opportunities, upcoming events and links to other organizations in the community. The sites are easy to navigate and content is similar to websites at other hospitals in the state. Idalia and South Y-W do not maintain websites for their organizations. Wray Ambulance has a web page on the city website that provides useful information and maintains a Facebook page. The web page for Yuma Ambulance has only the most basic information. Young people turn to the Internet and

social media for information. A current website and active Facebook page provide a relatively inexpensive means to promote emergency medical and trauma services and help to recruit younger members.

Recommendations

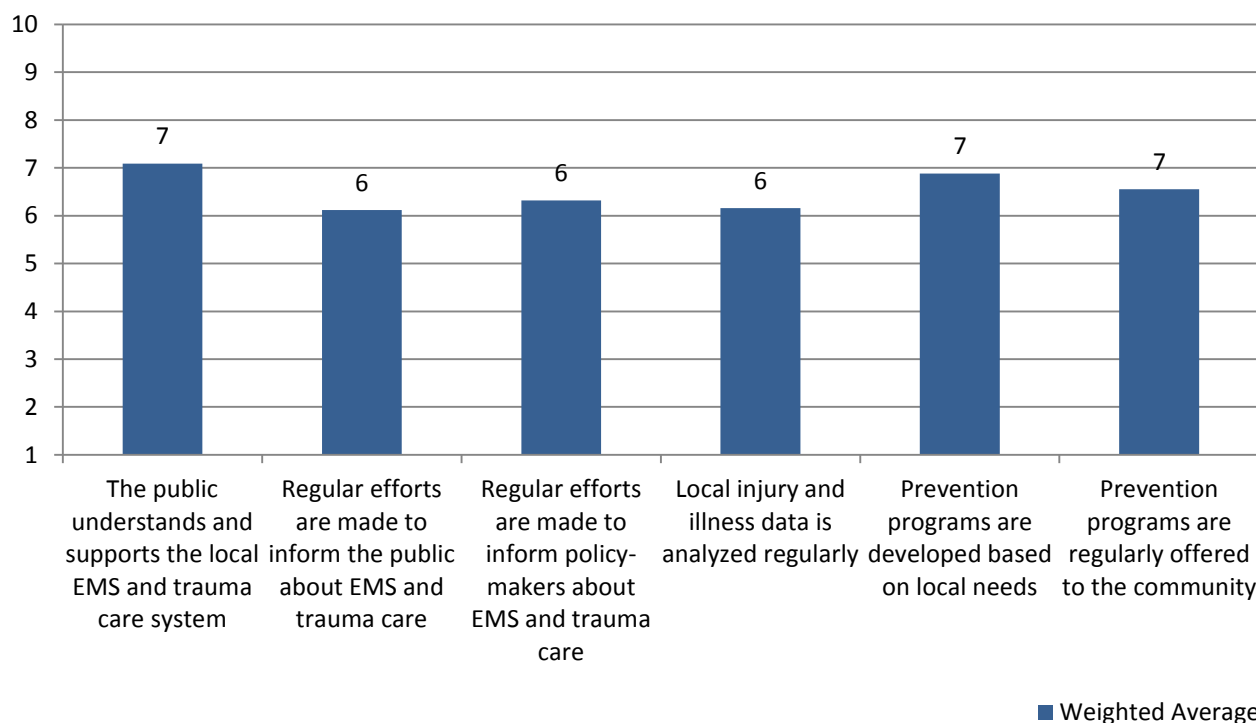
- ✱ Consider increased and enhanced use of information that is currently available. Collect, analyze and monitor data from prehospital patient care reports to identify excellent performance, areas in need of improvement or other trends, and incorporate those findings in the quality management process. This can help focus content for EMS continuing education or skills review sessions.
- ✱ Consider aggregating EMS data to help monitor and evaluate EMS system performance throughout Yuma County. Periodic review and comparison with pertinent benchmarks can help to optimize EMS system function and demonstrate the value of EMS to the community.
- ✱ Consider establishing links between data systems for all emergency medical and trauma services organizations. The ability to share data across the spectrum of patient care can be used to monitor the quality of care for individual patients or combined to assess any aspect of system performance. These links can also reduce errors and save time by reducing duplicative data entry.

Public Education and Prevention

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Public Education

Yuma County emergency medical and trauma services agencies provide public education to the extent possible given the resource constraints. Responses to the pre-visit survey indicate favorable opinions about public education activities in Yuma County. Both hospitals and all of the EMS agencies participate in appropriate community events and provide community education about CPR and other emergency medical and trauma services topics. Responders indicate that the public and policy makers both support EMS and understand the EMS and trauma system. They had adequate access to county commissioners, and funding was available for grant match and other needs. They engage with policy makers to keep them aware of EMS and trauma system changes.

Prevention

Similar to public education, resource constraints limit injury and disease prevention activities throughout Yuma County and programs are not coordinated. Responses to the pre-visit survey indicate favorable opinions about injury prevention in the county. Both hospitals participate in community events, and partner with EMS prevention efforts when available to do so. Survey responses indicate that local injury data is analyzed regularly, prevention programs are developed and presented based on community needs, and the programs are offered regularly.

Injury prevention activities at Wray Community District Hospital include community B-Con classes, providing bike helmets at the community fair, and concussion treatment information pamphlets provided at the yearly meetings for parents and student athletes. Yuma District Hospital provides head injury presentations to students and parents at the start of the school year, fall prevention using the Matter of Balance program, basic car seat safety classes, and bicycle safety at the health fair which includes fitting and providing bicycle helmets and distributing the REAP head injury informational booklets. Both facilities also plan to participate in the newly created NCRETAC injury prevention subcommittee. The community benefits greatly from these programs and others targeted toward agricultural injuries, fire safety, sports injuries, occupant protection or other problems identified through incidence data.

Recommendations

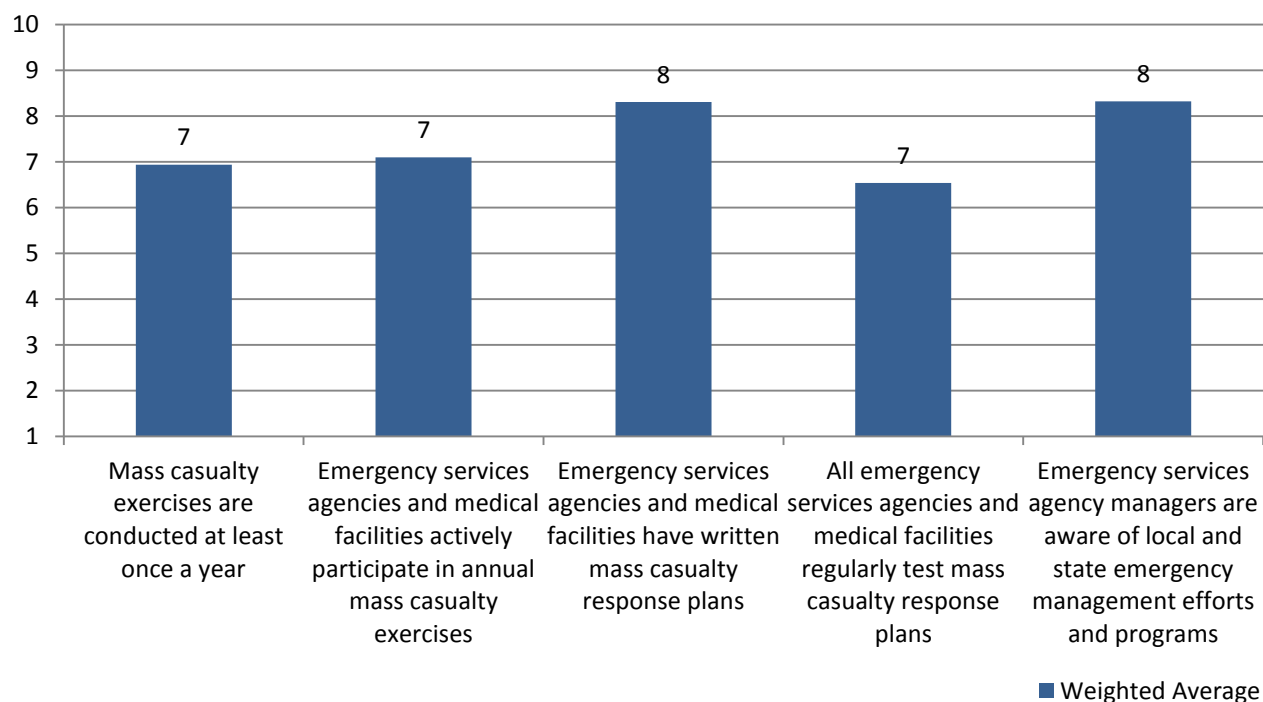
- ✿ Use surveys, trauma incidence data from the hospitals and other sources to identify problems or areas of interest to the community and develop specific prevention or public education to benefit the community.
- ✿ Augment the community CPR classes with EMS-specific content to demonstrate the public's role on the health care team, encourage the proper use of emergency services and identify potential recruits.
- ✿ Consider creating a countywide safety event to educate the community about ongoing safety issues, such as fall prevention for seniors, fire safety, or agricultural safety. This type of event provides the opportunity for all emergency organizations in the county to work across jurisdictions and provide the public with valuable information.

Mass Casualty

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 36 of 41 Respondents



Mass Casualty

The Yuma County Office of Emergency Management (OEM) has the lead role in planning for all hazards, including mass casualty incidents. The county emergency manager updates and maintains the county emergency operations plan.

The NCRETAC has taken on the task of developing a regional mass casualty response plan that has been adopted by Yuma County. The plan maintained by the Yuma County OEM was dated 2006 and appears to be the most current version of the plan. The plan provides a framework for mass casualty response including an overview of operational concepts, integration with the National Incident Management System (NIMS), a tiered response framework based on incident size and job descriptions of key personnel. It further appears that an update was attempted in 2013; however, the published versions of the 2013 revision do not indicate it was ever finalized.

Overall, the regional approach makes good sense and provides a reasonable basis for response to mass casualty incidents. The plan does have some limitations including some cut and paste errors, inconsistent terminology and duplicate or overly truncated graphics. It is also unclear when the plan was officially adopted and what revision timeline is expected. Many of these issues can be easily addressed in a future revision.

The plan, while well suited as a framework document, does not work well to provide real-time job aids to responders or dispatchers. The plan also fails to recognize the Colorado Resource

Mobilization Annex to the State Emergency Operations Plan maintained by the Colorado Department of Public Safety, Emergency Management Division or use of the EMResource tool maintained by the state department of health. The plan is silent on use of resources from the states of Kansas, Nebraska and Wyoming that adjoin the RETAC. The triage section, while lengthy, does not integrate the special needs of pediatric patients with the exception of a JUMP START triage diagram without additional context. The current plan does not recognize or incorporate the need for additional resources from the urbanized areas of the state along the Interstate 25 corridor in the event a large number of ambulances and other support would be required for an MCI. Strike teams are mentioned, but do not appear to be planned or designated in any meaningful way. The plan does not provide guidance on how patients should be distributed amongst receiving hospitals.

In speaking with EMS responders in Yuma County, it appears the ambulance services in Yuma and Wray participate in regular drills sponsored by the Yuma County OEM. Participation by Idalia and South Y-W Ambulance is restricted by their limited resources and volunteer staffing. It was not clear that drills were designed specifically to test or reinforce plan elements with many recent drills focusing on active shooter scenarios.

Recommendations

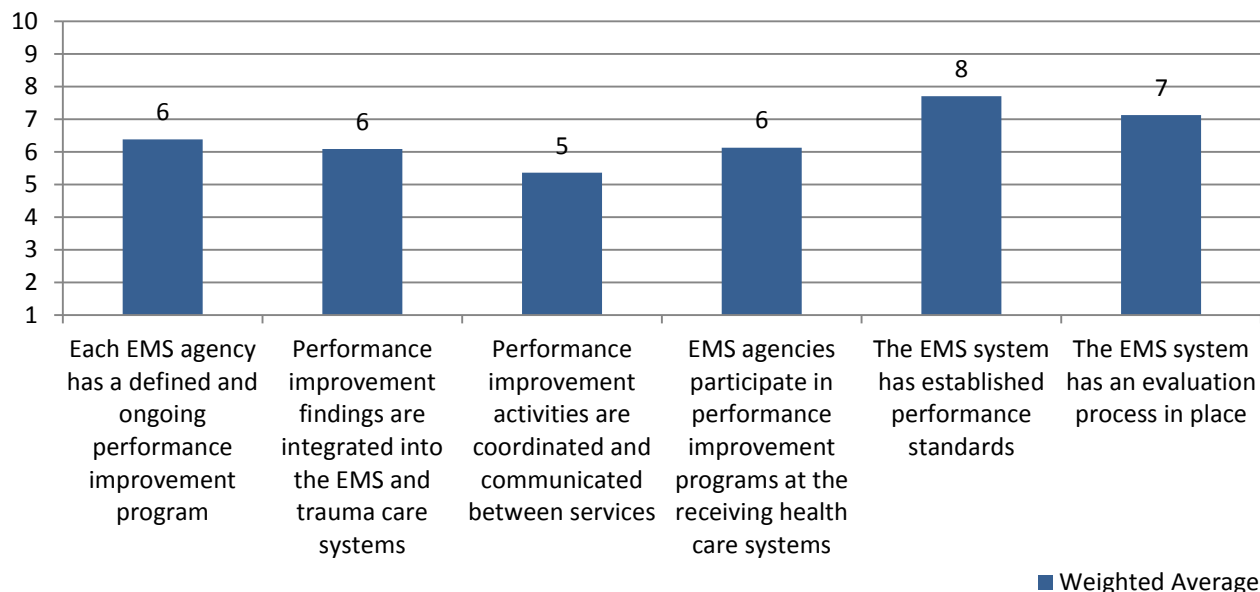
- ✱ Re-engage with the NCRETAC to update and enhance the current regional MCI plan and develop accompanying tools to help dispatchers, responders and emergency managers to implement the plan. Yuma County, as well as the other counties in the NCRETAC, would benefit greatly from renewed interest and activity around MCI planning.

Evaluation

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 35 of 41 Respondents



Evaluation

The key to the evaluation of clinical care is an effective quality management program. As mentioned earlier, the medical directors are passive in the quality management process and review a minimal number of trip sheets only when prompted by the ambulance service director. It is unclear if the medical directors of the two smaller agencies review trip sheets at all. Field staff and ambulance service directors indicated that set clinical filters are not tracked. In addition, there needs to be a random sampling of all trip sheets and specific time or seasonal benchmarking of topics by the medical directors. Feedback from tertiary care facilities is an effective method to evaluate care but staff indicated that follow-up was received sporadically. There were no indications there are any gaps in care or concerns regarding patient outcome. It is unclear if these concerns would be recognized or openly discussed without a formal performance improvement system in place.

There is no formal mechanism currently in place to direct clinical concerns to the medical directors for South Y-W or Idalia nor is a formalized quality assurance process involving the medical director currently in place at either of the agencies. There is no formal quality management process involving the medical director for Wray Ambulance although they do have a signed policy in place specifying performance of quality management as an expectation of the service. There is also a standardized continuous quality improvement checklist that was created to comply with licensing requirements for Kansas that is to be used for chart review with a place for loop closure and commentary from the medical director. It does not appear that the checklist or loop closure mechanism is currently being used. Quality issues are brought to the medical director's attention through the ambulance service director or through casual interaction with the hospital staff. Issues identified by hospital staff concerning the

ambulance service are usually reported to the ambulance service director by the hospital's director of nursing. Internal chart reviews for the Yuma Ambulance Service are performed by the ambulance director and another staff member who is an EMT-I and RN. If an issue is identified, and it appears to be an isolated event, the EMT is brought in and issue discussed. If a trend is identified, the director tries to narrow down whether the root cause is a training deficiency, protocol issue or is just a specific provider issue. If it is a training issue, a class or in service will be performed for the entire staff. If it is a protocol issue, the protocol is reviewed and changed. Any significant issues or care concerns are escalated to the medical director for review. The ambulance director did feel that the program has some deficiencies and would benefit from a more formalized approach. All four ambulance service directors noted that the medical directors have access to view patient care reports on ImageTrend, but it appears that regular chart reviews have not been performed and none of the medical directors reported accessing their account. The Washington-Yuma Combined Communication Center uses an emergency medical dispatch system but the medical director does not appear to be actively engaged in the quality improvement processes.

Development of formal quality improvement tools and coordination between the various agency quality improvement processes would permit comprehensive analysis of the emergency medical and trauma services system as a whole. In addition, the Colorado legislature recently extended protections to exclude EMS quality management activities from being legally discoverable and offer immunity from civil lawsuit for quality management participants, providing the activities meet a minimum set of quality management standards and participants act in good faith. To date, none of the EMS agencies in Yuma County have implemented a quality management program that meets the requirements of this statute. The elements specified in the statute are taken from quality assurance and quality improvement programs used by hospitals and other health care entities. Implementing the guidelines may help Yuma County to enhance current quality improvement programs.

Recommendations

- ✱ Develop defined processes for chart review to include clinical filters and a standardized approach to help identify and address knowledge and skills gaps. Create mechanisms to demonstrate that appropriate training, remediation or other corrective action has been taken when issues are identified in the quality management process.
- ✱ Develop a set of clinical filters. It may be beneficial for the EMS agencies to identify specific conditions, low volume-high risks diagnoses, and other call types that initiate an automatic medical director review. This process should include both 911 and interfacility transfers. To maximize the medical directors' time, assure that they review only selected trip sheets and ensure that the selection system is objective, pre-planned and free of individual bias.
- ✱ Review the process for receiving follow-up from both the primary and tertiary facilities. Coordinate with the emergency department, which often times may receive the follow-up. If that is not the case, the emergency department director should contact the tertiary facility and then share the follow-up through the clinical coordinator for each ambulance service.

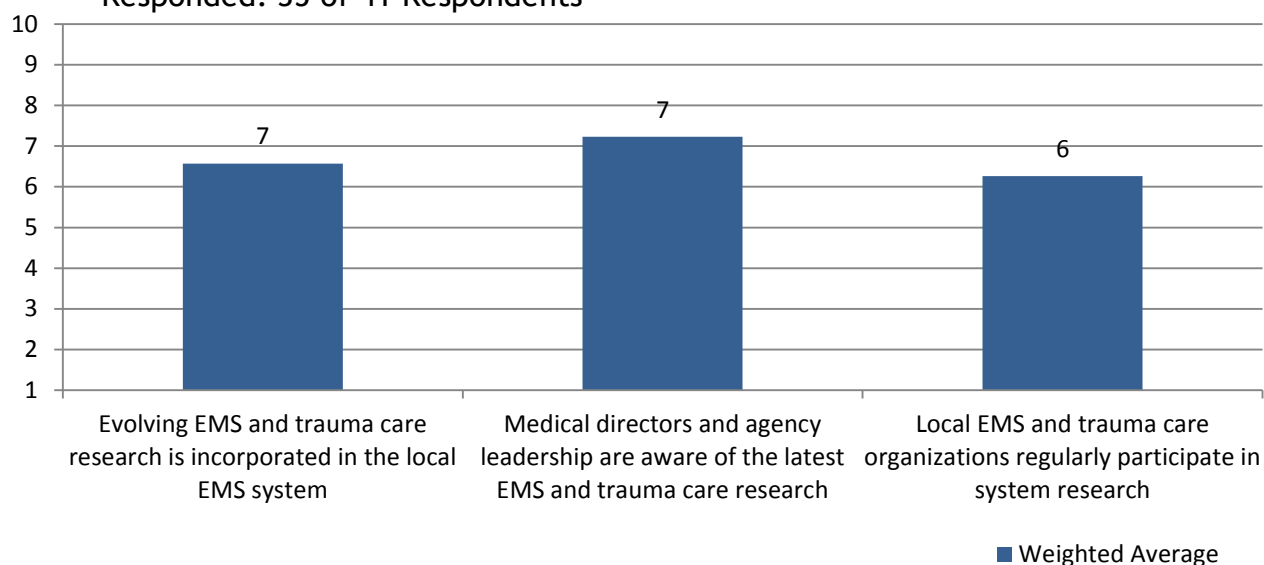
- ✱ Access medical direction resources from NCRETAC to provide technical assistance to enhance the existing quality management program for the Washington-Yuma Combined Communications Center and the basic quality management programs at the ambulance services in Yuma County to comply with 25-3.5-904 C.R.S.
- ✱ Coordinate quality management activities among the emergency medical and trauma services organizations within Yuma County to improve services and optimize outcomes by assessing each agency's contribution to patient care. Develop, implement and maintain a compliant program for the county emergency services council to formally monitor, evaluate and report on aggregate quality and performance measures for the local emergency medical and trauma services system.

EMTS Research

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 35 of 41 Respondents



EMTS Research

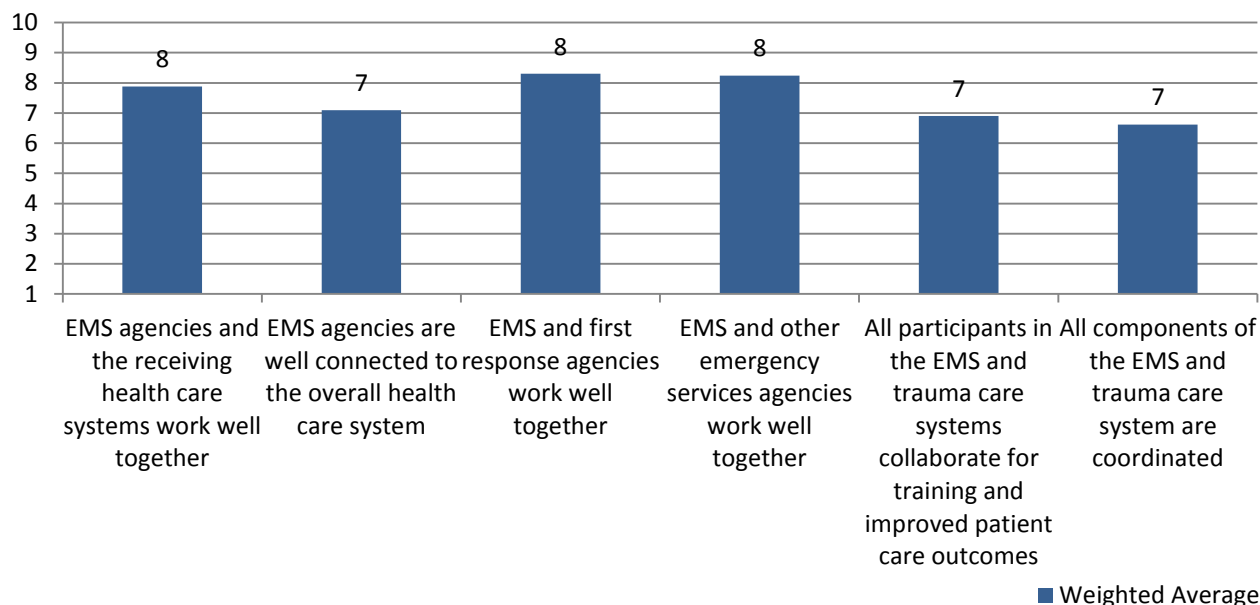
Most providers in Yuma County feel that current trauma care research has been incorporated into the EMS system and the medical directors are aware of the latest research. Local ambulance services do not participate in research due to the lack of staff and time. Numbers generated by small rural systems rarely produce a large enough sample to be statistically significant for inclusion in peer-reviewed clinical research although the information is useful for identifying trends applicable to the Yuma County system. All ambulance services in Yuma County use the same patient care reporting platform so the potential exists to combine data over time to generate significant results. It appears that the system is underutilized as a resource for quality management activities.

Integration of Health Services

Please rate the following on a scale of 1 - 10.

10 = Strongly Agree 1 = Strongly Disagree

Responded: 35 of 41 Respondents



Integration of Health Services

Integration of services and continuity of care can be one of the most challenging areas to accomplish within the health care system of any county. It requires coordination between a



broad array of people, processes and organizations across the continuum of care to function in unison for the benefit of every patient. Highly-integrated systems provide effective bidirectional linkages to transfer information. Quality communication with downstream providers is essential to understand each patient's condition and continue appropriate interventions as patients are relayed to definitive care. Information

must flow upstream as well to educate providers and evaluate system and provider performance. Although the process can be daunting, integration of systems can be extremely beneficial to those involved providing expanded communication, continued training, as well as process and procedural improvement.

Overall the emergency medical and trauma system provides quality care and the components appear to work well together. This perspective is consistent with the positive opinions expressed during the stakeholder interviews and the favorable rating for this factor in the pre-visit survey. Bidirectional communication is evident, with EMS getting feedback from the hospitals on the patients they transport. Interaction with key resource facilities at the larger trauma centers is helpful for feedback, education, case reviews, and occasional chart review. The hospitals offer a patient portal for community members to have access to medical

information, and the electronic medical record is integrated between each hospital and the associated clinic. Both hospitals and all ambulance services participate in EMS and trauma activities through the NCRETAC and local EMS council. Specific areas of need are related to the lack of behavioral health resources, as is commonly found throughout the state, and adequate personnel to staff ambulance transports when patients are being transferred outside of the county.

Recommendations

- ✿ Coordinate training programs and create joint training opportunities for all emergency medical and trauma services providers to work collaboratively across disciplines and improve integration of services across the continuum of care. These shared efforts enhance the quality and relevance of education by using instructors with special expertise to present specific topics regardless of their agency affiliation and incorporating information on patient outcome in case studies. Professional relationships developed through cooperative learning experiences improve communications, clinical skills and understanding of roles for each member of the healthcare team. Further benefits can be seen through the building of trust amongst the providers with the realization that they all share a common knowledge base that contributes to consistent patient outcomes.
- ✿ Develop, implement and maintain a multidisciplinary quality management program to formally monitor and evaluate performance of the local emergency medical and trauma services system. Assessing each agency's contribution to patient care, from dispatch through definitive care, is essential to improve services and optimize outcomes.
- ✿ Establish links between data systems for all organizations providing emergency medical and trauma services in the county. The ability to share data across the full spectrum of care, from pre-arrival care instructions by dispatch through the hospital's comprehensive electronic medical record, can ensure each patient's care is effectively communicated among providers as well as reduce errors and save time by eliminating duplicative data entry.

Summary of Recommendations

Yuma County Government Recommendations

Short-term (1 to 2 years)

- ✱ Update the Yuma County ambulance licensing resolution to comply with governing law and current practices.
- ✱ Consider including representation from air medical, EMS medical direction, local emergency management and public health on the local emergency services council in revisions to the county ambulance licensing resolution. Consider expanding duties for this council to include recommending priorities for local system development, and prioritizing requests for supplemental funding.

Medium-term (3 to 5 years)

- ✱ Establish a countywide ambulance district. A district will support and coordinate personnel throughout the county to improve minimum daily staffing ensuring 911 response to all areas and availability of qualified staff to manage interfacility transports out of the hospitals. A district would also make use of common resources to centralize services and leverage economies of scale through standardized capital purchases, management of vehicles and capital equipment to maximize useful service life, maintenance of networks required for electronic patient care reporting, records management and other specialized information technology, unified billing and collections to optimize cost recovery through user fees, integrated medical direction, quality management and delivery of continuing medical education to monitor and maintain ongoing provider competency. A property tax levy of 2 mills is sufficient to sustain consolidated operations without subsidy from local governments in Yuma County. A district will also provide a responsive organization with direct accountability to the electorate for finances and service levels.

Communications Center Recommendations

Short-term (1 to 2 years)

- ✱ Identify the number of times verified locations are bypassed by dispatchers in the CAD system and review current procedures for location verification. Revise procedures as indicated to verify caller locations to avoid response delays.
- ✱ Develop a response configuration identifying the agency and response mode appropriate for each emergency medical dispatch determinant, create a standard quality improvement review process and assess for compliance with response mode guideline to prehospital scenes.
- ✱ Access medical direction resources from NCRETAC to provide technical assistance to enhance the existing quality management program for the Washington-Yuma Combined Communications Center and the basic quality management programs at the ambulance services in Yuma County to comply with 25-3.5-904 C.R.S.

Medium-term (3 to 5 years)

- ✱ Enhance recording capabilities to capture communications on all telephone lines used for communications between field providers and EMS medical direction. Improve capabilities

to manage and maintain recordings for quality improvement activities and risk management.

- ✱ Develop a resilient communications system that can act as a failsafe and has the ability to provide communications in areas where the 800 MHz system is not functional.
- ✱ Stakeholders should keep abreast with development of the FirstNet public safety mobile network and trial new devices or services as they become available to determine if they enhance communications capabilities.
- ✱ Coordinate quality management activities among the emergency medical and trauma services organizations within Yuma County to improve services and optimize outcomes by assessing each agency's contribution to patient care. Develop, implement and maintain a compliant program for the county emergency services council to formally monitor, evaluate and report on aggregate quality and performance measures for the local emergency medical and trauma services system.

Long-term (5 years)

- ✱ Coordinate training programs and create joint training opportunities for all emergency medical and trauma services providers to work collaboratively across disciplines and improve integration of services across the continuum of care. These shared efforts enhance the quality and relevance of education by using instructors with special expertise to present specific topics regardless of their agency affiliation and incorporating information on patient outcome in case studies. Professional relationships developed through cooperative learning experiences improve communications, clinical skills and understanding of roles for each member of the healthcare team. Further benefits can be seen through the building of trust amongst the providers with the realization that they all share a common knowledge base that contributes to consistent patient outcomes.
- ✱ Develop, implement and maintain a multidisciplinary quality management program to formally monitor and evaluate performance of the local emergency medical and trauma services system. Assessing each agency's contribution to patient care, from dispatch through definitive care, is essential to improve services and optimize outcomes.
- ✱ Establish links between data systems for all organizations providing emergency medical and trauma services in the county. The ability to share data across the full spectrum of care, from pre-arrival care instructions by dispatch through the hospital's comprehensive electronic medical record, can ensure each patient's care is effectively communicated among providers as well as reduce errors and save time by eliminating duplicative data entry.

Ambulance Service Recommendations

Short-term (1 to 2 years)

- ✱ Positive recognition of personnel who perform quality work is important but there is an additional dimension with respect to emergency services volunteers. They are called away on a moment's notice and forego sleep, time with loved ones or shift workload to other employees at their regular employer. These volunteers could not serve without the support of their families, friends or coworkers and appreciation for this support system is just as essential. The emergency medical and trauma services agencies should refine current recognition programs and create new offerings to acknowledge the contributions from EMS providers, their families and employers to enhance EMS provider retention.

- Formal recognition such as Volunteer of the Year, Most Hours On-Call, Most Supportive Family or similar accolades can prove to be beneficial.
 - Collaborate with local media to get articles in the newspapers or radio reports about the service and, most importantly, specific individual's contributions.
 - Gatherings such as dinners, potlucks or picnics to recognize agency personnel and their families, and build relationships outside the demands of emergency services.
 - Use newsletters, social media posts and other media to provide information about the service and the people providing service.
 - Maintain a high quality, current website including information on agency activities and photos of personnel and equipment.
 - Post bar charts with the number of hours on call or other measures and award incentives for reaching certain milestones.
- ✱ The ambulance service directors have accumulated a substantial volume of institutional knowledge during their respective tenures. It is important for each of them to catalog this knowledge so that it may be passed on to others in case of their absence or separation from the organization. Each ambulance service director should create an accessible record of tasks or procedures and standard operating guidelines to serve as a reference for successors, supervisors and delegates. Likewise, the ambulance services need to create a resilient organizational structure to maintain continuity in case key personnel are absent or separate from the organization and assist the with coordination of services.
 - ✱ Initiate communication and collaboration between the EMS medical directors in Yuma County. Enhanced cooperation between the medical directors will help to ensure care is provided consistent with community expectations everywhere in the county, enhance quality of medical direction through sharing of best practices and reduce duplicative efforts.
 - ✱ Case review education is one of the most beneficial modalities to provide training for EMS providers and does not require an onerous amount of preparation. Medical directors should strive to make this option available as well as attend and lead these activities personally. The medical directors and EMS leadership should consider coordinating case review trainings to include providers from the communications center, ambulance service, air medical and hospitals who participated in caring for a patient. In addition, conducting case reviews in a location where providers from multiple agencies can attend creates opportunities that facilitate both simultaneous learning and camaraderie between the providers.
 - ✱ Assure effective, formal quality management for all facets of the emergency medical and trauma services system in Yuma County that includes regular participation from the medical director. This includes clinical aspects such as pre-arrival instructions to the public from emergency medical dispatch personnel and treatment protocols for EMS providers but also operational considerations such as determinants to categorize the level of response to calls for service or participation in the selection of personnel. Programs should be designed to include all of the elements required by statute to take advantage of the protections for quality management programs.
 - ✱ Provide expert guidance and support for the medical directors. The EMS medical directors throughout the NCRETAC have formed the Northeast Physicians Advisory Board (NEPAB) to facilitate peer communication, provide resources to help agency medical directors do their job better, facilitate regional EMS quality management activities, promote standardization

of protocols for consistent levels of service and training for EMS providers and facilitate communications with the local health care community. The Yuma County EMS medical directors could benefit from actively participating in this physician advisory board where issues unique to physicians practicing in the nine counties of northeast Colorado are discussed. Participation in NEPAB will help the medical directors develop a network of colleagues and make better use of resources offered by the regional medical direction program to keep them current on EMS scope of practice, OATH registration and other regulatory requirements, protocol development and other topics.

- ✱ Connect with the state EMS medical director and make use of resources available through the department to support agency medical directors. Many resources are available on line on the Emergency Medical and Trauma Services Branch website at www.coems.info. This page also links to information about activities of the Emergency Medical Practice Advisory Council (EMPAC), the group that advises the department on regulations governing the practice of EMS providers and requirements for EMS medical directors.
- ✱ Consider early dispatch of air medical for critical patients, or patients likely to require a higher level of care. This could include dispatch directly to the scene in circumstances such as motor vehicle crashes with significant mechanism or cardiac chest pain in the less accessible parts of the county. This should also include early dispatch to a facility when patients are identified as having a time-sensitive condition requiring tertiary care such as polysystem trauma patients, STEMIs and strokes. All emergency medical and trauma services organizations in Yuma County should use a standard protocol for activation of air medical services, provide consistent training for its application and review each activation for appropriate utilization by a multidisciplinary team through a joint quality management process. The regional medical direction program for the NCRETAC can provide technical assistance with development of protocols designed for the benefit of patients, based on the circumstances specific to Yuma County.
- ✱ Develop an interfacility transport protocol to better leverage all transport resources available to the county. Consider creating cooperative agreements to share personnel, vehicles or other resources among the ambulance services to reduce the burden of interfacility transports on the local providers. This could be as diverse as using a vehicle operated by one of the volunteer services staffed by critical care providers from an air medical service based in the area. The cooperative agreements should also assign the responsibility for billing and the method for allocating revenues based on the resource that was contributed to the response.
- ✱ Unrestrained vehicle occupants are at significantly greater risk of injury or death, and pose a risk to other vehicle occupants, in the event of a crash. All ambulance services in Yuma County should have written policies that require occupants in the front seat of any emergency vehicle to be restrained by a seat belt and shoulder harness any time the vehicle is in motion. Further, any patient or other person riding in an emergency vehicle must be properly restrained any time the vehicle is in motion. This includes the use of all cot straps as designed by the manufacturer. Finally, both services should develop a culture of safety that emphasizes use of shoulder and seat belt restraints for any provider in the patient care compartment as much as possible. This culture emphasis should include promoting the concept of implementing the vast majority of patient care interventions when the emergency vehicle is stationary, facilitating the use of restraints when the vehicle is in motion.
- ✱ Use of emergency lights and siren should be minimized during scene response and patient transport by ambulance services operating in Yuma County. The usage rate is already low

but may be reduced further for scene responses by EMS medical direction and agency leadership working with the communications center to assign an appropriate response mode configuration to each emergency medical dispatch determinant. Response mode configurations should identify the specific agencies that are needed to effectively manage the incident type and the response mode, emergent or routine, appropriate for each unit. Emergency patient transports can be decreased further through careful review of current practice to ensure lights and sirens are only used for the limited number of patient conditions that would benefit from emergent transport to the hospital. Incorporate dispatch response mode recommendations into the training for providers in all emergency response agencies to reduce unwarranted use of lights or siren. Medical oversight should include dispatch quality management review, compliance with response mode configurations and ongoing evaluation to assess effectiveness of response mode configurations.

- ✱ Cultivate relationships with the air medical and critical care teams serving the region to serve as a resource for continuing education.
- ✱ Review scheduled emergency medical and trauma services education and evaluate opportunities for funding assistance. Make use of resources from the Colorado Rural Health Center, Morgan Community College Financial Aid office and NCRETAC to help identify grants and scholarships available to providers serving Yuma County.
- ✱ Develop a response configuration identifying the agency and response mode appropriate for each emergency medical dispatch determinant, create a standard quality improvement review process and assess for compliance with response mode guideline to prehospital scenes.
- ✱ Consider increased and enhanced use of information that is currently available. Collect, analyze and monitor data from prehospital patient care reports to identify excellent performance, areas in need of improvement or other trends, and incorporate those findings in the quality management process. This can help focus content for EMS continuing education or skills review sessions.
- ✱ Access medical direction resources from NCRETAC to provide technical assistance to enhance the existing quality management program for the Washington-Yuma Combined Communications Center and the basic quality management programs at the ambulance services in Yuma County to comply with 25-3.5-904 C.R.S.
- ✱ Develop defined processes for chart review to include clinical filters and a standardized approach to help identify and address knowledge and skills gaps. Create mechanisms to demonstrate that appropriate training, remediation or other corrective action has been taken when issues are identified in the quality management process.
- ✱ Develop a set of clinical filters. It may be beneficial for the EMS agencies to identify specific conditions, low volume-high risks diagnoses, and other call types that initiate an automatic medical director review. This process should include both 911 and interfacility transfers. To maximize the medical directors' time, assure that they review only selected trip sheets and ensure that the selection system is objective, pre-planned and free of individual bias.
- ✱ Review the process for receiving follow-up from both the primary and tertiary facilities. Coordinate with the emergency department, which often times may receive the follow-up. If that is not the case, the emergency department director should contact the tertiary

facility and then share the follow-up through the clinical coordinator for each ambulance service.

Medium-term (3 to 5 years)

- ✱ The ambulance services work well together but could potentially benefit from sharing resources to help with developing policies and resources to address some of the organizational needs and concerns identified in the survey and comments expressed by members of local EMS community.
- ✱ Consider opportunities for cross training between fire, law enforcement and EMS to enhance relationships and improve availability of time-sensitive interventions.
- ✱ Enhance EMS provider retention through increased provider confidence and job satisfaction.
 - Create training opportunities for EMS providers focused on critical skills used infrequently on high-acuity patients. Identify critical skills, assess provider confidence with skill performance and design training to develop skill mastery using learning principles developed by other health care disciplines, the military, law enforcement and fire services.
 - Create training opportunities for EMS providers to work collaboratively with other emergency medical professionals with a higher level of training or education. Schedule EMS providers to work in the hospital emergency department to enhance skills, develop professional relationships and better integrate with the continuum of medical care.
 - Consider creating part-time positions in the emergency department at the hospitals for EMS providers to support the hospital staff during periods of high demand. Emergency departments at hospitals throughout the nation use EMS providers of all levels as a staffing resource. As coworkers, the hospital staff and EMS providers will develop professional relationships, mutually assist and support one another within their scope of practice and enhance skills for EMS providers in a clinical environment under the supervision of higher-level medical staff.
- ✱ Consider developing a common set of medical treatment protocols that would be used by all ambulance services in Yuma County. These can be derived from the protocols offered through the NCRETAC that are regularly reviewed and updated to maintain compliance with state rules and stay current with industry practice.
- ✱ Consider unifying medical treatment protocols for all agencies in Yuma County. Standard, countywide protocols provide a number of benefits. First and foremost, they establish a uniform standard of care for all patients encountered by EMS providers consistent with the expectations of the local health care community. The majority of EMS protocols are developed based on the scope of practice for EMS providers as established by regulation and share common elements. Standardizing protocols that comprise the core of EMS practice reduces the amount of time each agency medical director must devote to protocol development. Consistent protocols also simplify on-line medical direction. The physician in contact with EMS providers in the field only has to be familiar with one set of protocols to provide sound advice consistent with EMS scope of practice and the principles of patient care established by the agency medical director.
- ✱ All of the medical directors wear many hats and have been generous with their time to serve the community by supervising the EMS providers. However, they should consider further formal training, when possible, such as completion of an EMS Medical Directors

training course through the American College of Emergency Physicians, attendance at the Medical Director's Forum at the state EMS conference or other programs to build the skills to effectively provide EMS medical oversight.

- ✱ Consider consolidating medical direction workload by having one dedicated medical director at each hospital to collaborate and standardize EMS care across the county. This might serve to provide consistent levels of service, educational opportunities and medical oversight. There are a variety of models for countywide medical direction across the state including consensus among the EMS providers and medical practitioners in the community, selection by a county emergency services council and appointment by the Board of County Commissioners. Consolidating medical direction may increase workload for the individuals at each facility responsible for medical direction, and a variety of models exist to accommodate these demands. Communities with volunteer medical direction sometimes rotate the position among the physicians in a community with each taking on the additional EMS duties for a period of time while other practitioners shoulder increased patient loads. Another alternative is to have one physician serve as the lead and coordinate components of the process assigned to associate EMS medical directors. Compensated models include a base hospital incorporating EMS medical direction into the physician's assigned duties, paying a fixed amount for medical direction during a specified period of time or by some measure of requests for service.
- ✱ None of the EMS medical directors receives compensation for services. If the current model for medical direction is continued, the EMS community should consider some type of financial stipend. The physicians currently providing medical direction have very busy practices without their EMS responsibilities and a stipend may compensate them for their commitment or least convey gratitude for the time they devote to EMS.
- ✱ Link continuing education programs to the quality management process. The existing continuing education processes appear to cover the requirements to maintain credentials but connecting the two processes will advance the agencies to the next level where education can reinforce existing strengths and bolster identified weaknesses in the system as well as for individual providers. This is particularly important for advanced-level providers who may be performing higher-level skills infrequently based on the relatively low volume of patient contacts.
- ✱ Consider coordinating EMS continuing education activities among the ambulance services. Shared efforts can enhance the quality of education by using instructors with special expertise to present specific topics regardless of their agency affiliation. Working together on EMS continuing education can also avoid duplicative efforts such as presenting similar topics by two different instructors at about the same time. Coordinated education also creates an opportunity for providers from different agencies to train together and improve operations on responses with multiple agencies.
- ✱ Work with the community colleges to improve access to initial EMS provider education to increase the number of trained providers. Contact candidates for EMS provider training to identify course schedules and delivery methods that compliment other obligations in students' lives. Collaborate with the initial EMS training program to leverage educational resources through distance learning for didactic content and distributed instruction of laboratory and clinical experiences. Cooperate with other ambulance services to coordinate course offerings to minimize instructor costs using virtual classrooms to serve a greater number of students than can be reached in a traditional classroom environment. Request in-district employer-sponsored courses and negotiate more favorable cost for non-credit courses. The ambulance services in Yuma County all have limited financial resources

and would likely be eligible for a waiver to reduce the matching funds required for CREATE training grants.

- ✱ Take advantage of industry-specific leadership and management training for the ambulance service directors. The ambulance service directors are experienced and, from all appearances, they have performed well. However, it is important that they each receive the necessary tools to guide and help with the multitude of issues that even experienced ambulance service managers face. Initially consider course offerings like the National Fire Academy-Management of Emergency Medical Services, American Ambulance Association-Ambulance Service Management, Northwest RETAC EMS Leadership Conference and the National Rural EMS Conference and provide funding, travel, backfill or other support necessary for the director to attend.
- ✱ Stakeholders should keep abreast with development of the FirstNet public safety mobile network and trial new devices or services as they become available to determine if they enhance communications capabilities.
- ✱ Consider aggregating EMS data to help monitor and evaluate EMS system performance throughout Yuma County. Periodic review and comparison with pertinent benchmarks can help to optimize EMS system function and demonstrate the value of EMS to the community.
- ✱ Use surveys, trauma incidence data from the hospitals and other sources to identify problems or areas of interest to the community and develop specific prevention or public education to benefit the community.
- ✱ Augment the community CPR classes with EMS-specific content to demonstrate the public's role on the health care team, encourage the proper use of emergency services and identify potential recruits.
- ✱ Consider creating a countywide safety event to educate the community about ongoing safety issues, such as fall prevention for seniors, fire safety, or agricultural safety. This type of event provides the opportunity for all emergency organizations in the county to work across jurisdictions and provide the public with valuable information.
- ✱ Re-engage with the NCRETAC to update and enhance the current regional MCI plan and develop accompanying tools to help dispatchers, responders and emergency managers to implement the plan. Yuma County, as well as the other counties in the NCRETAC, would benefit greatly from renewed interest and activity around MCI planning.

Long-term (5 years)

- ✱ Consider establishing links between data systems for all emergency medical and trauma services organizations. The ability to share data across the spectrum of patient care can be used to monitor the quality of care for individual patients or combined to assess any aspect of system performance. These links can also reduce errors and save time by reducing duplicative data entry.
- ✱ Coordinate quality management activities among the emergency medical and trauma services organizations within Yuma County to improve services and optimize outcomes by assessing each agency's contribution to patient care. Develop, implement and maintain a compliant program for the county emergency services council to formally monitor, evaluate and report on aggregate quality and performance measures for the local emergency medical and trauma services system.
- ✱ Coordinate training programs and create joint training opportunities for all emergency medical and trauma services providers to work collaboratively across disciplines and

improve integration of services across the continuum of care. These shared efforts enhance the quality and relevance of education by using instructors with special expertise to present specific topics regardless of their agency affiliation and incorporating information on patient outcome in case studies. Professional relationships developed through cooperative learning experiences improve communications, clinical skills and understanding of roles for each member of the healthcare team. Further benefits can be seen through the building of trust amongst the providers with the realization that they all share a common knowledge base that contributes to consistent patient outcomes.

- ✱ Develop, implement and maintain a multidisciplinary quality management program to formally monitor and evaluate performance of the local emergency medical and trauma services system. Assessing each agency's contribution to patient care, from dispatch through definitive care, is essential to improve services and optimize outcomes.
- ✱ Establish links between data systems for all organizations providing emergency medical and trauma services in the county. The ability to share data across the full spectrum of care, from pre-arrival care instructions by dispatch through the hospital's comprehensive electronic medical record, can ensure each patient's care is effectively communicated among providers as well as reduce errors and save time by eliminating duplicative data entry.

Hospital Recommendations

Short-term (1 to 2 years)

- ✱ Consider early dispatch of air medical for critical patients, or patients likely to require a higher level of care. This could include dispatch directly to the scene in circumstances such as motor vehicle crashes with significant mechanism or cardiac chest pain in the less accessible parts of the county. This should also include early dispatch to a facility when patients are identified as having a time-sensitive condition requiring tertiary care such as polysystem trauma patients, STEMIs and strokes. All emergency medical and trauma services organizations in Yuma County should use a standard protocol for activation of air medical services, provide consistent training for its application and review each activation for appropriate utilization by a multidisciplinary team through a joint quality management process. The regional medical direction program for the NCRETAC can provide technical assistance with development of protocols designed for the benefit of patients, based on the circumstances specific to Yuma County.
- ✱ Cultivate relationships with the air medical and critical care teams serving the region to serve as a resource for continuing education.
- ✱ Review scheduled emergency medical and trauma services education and evaluate opportunities for funding assistance. Make use of resources from the Colorado Rural Health Center, Morgan Community College Financial Aid office and NCRETAC to help identify grants and scholarships available to providers serving Yuma County.

Medium-term (3 to 5 years)

- ✱ Each hospital district in Yuma County should review its service plan, update if indicated and file the revised service plan with the Colorado Department of Local Affairs. Although the services currently offered are authorized by statute, a plan that includes all current and future services will increase transparency for this level of government and enhance

reimbursement if district resources are ever called to assist with a declared federal disaster.

- ✱ Work with the community colleges to improve access to professional nursing education to increase the number of trained nurses. Partner with nursing education programs by establishing favorable clinical site agreements and providing additional education for the current nursing staff to better qualify as nursing preceptors during student clinical experiences. Collaborate with the nursing program admission staff to identify the impediments to acceptance that have reduced the number of students from Yuma County entering the nursing program. Focus on nursing program admission criteria that can be influenced. For example, tutor applicants to achieve higher course grades in Biology 201, provide supplemental preparation to maximize scores on the English language section of the Kaplan nurse entrance test and hire applicants to demonstrate prior paid nurse aide work experience to optimize points towards the competitive process for admission to the Morgan Community College nursing program.
- ✱ Stakeholders should keep abreast with development of the FirstNet public safety mobile network and trial new devices or services as they become available to determine if they enhance communications capabilities.
- ✱ Consider creating a countywide safety event to educate the community about ongoing safety issues, such as fall prevention for seniors, fire safety, or agricultural safety. This type of event provides the opportunity for all emergency organizations in the county to work across jurisdictions and provide the public with valuable information.
- ✱ Re-engage with the NCRETAC to update and enhance the current regional MCI plan and develop accompanying tools to help dispatchers, responders and emergency managers to implement the plan. Yuma County, as well as the other counties in the NCRETAC, would benefit greatly from renewed interest and activity around MCI planning.

Long-term (5 years)

- ✱ Consider establishing links between data systems for all emergency medical and trauma services organizations. The ability to share data across the spectrum of patient care can be used to monitor the quality of care for individual patients or combined to assess any aspect of system performance. These links can also reduce errors and save time by reducing duplicative data entry.
- ✱ Coordinate training programs and create joint training opportunities for all emergency medical and trauma services providers to work collaboratively across disciplines and improve integration of services across the continuum of care. These shared efforts enhance the quality and relevance of education by using instructors with special expertise to present specific topics regardless of their agency affiliation and incorporating information on patient outcome in case studies. Professional relationships developed through cooperative learning experiences improve communications, clinical skills and understanding of roles for each member of the healthcare team. Further benefits can be seen through the building of trust amongst the providers with the realization that they all share a common knowledge base that contributes to consistent patient outcomes.
- ✱ Develop, implement and maintain a multidisciplinary quality management program to formally monitor and evaluate performance of the local emergency medical and trauma services system. Assessing each agency's contribution to patient care, from dispatch through definitive care, is essential to improve services and optimize outcomes.

- ✿ Establish links between data systems for all organizations providing emergency medical and trauma services in the county. The ability to share data across the full spectrum of care, from pre-arrival care instructions by dispatch through the hospital's comprehensive electronic medical record, can ensure each patient's care is effectively communicated among providers as well as reduce errors and save time by eliminating duplicative data entry.

Appendix A: Yuma County EMS Statistics 2016

These statistics are based upon what was reported to the state for NEMSIS reporting

Response Requests

Response Request	# of Requests	% of Total Requests
911 Response (Scene)	661	58.9%
Interfacility Transfer (Scheduled)	284	25.3%
Standby	90	8.0%
Unknown	27	2.4%
Interfacility Transfer (Scheduled)	25	2.2%
Medical Transport	10	0.9%
Mutual Aid	10	0.9%
Flight Shuttle	9	0.8%
Intercept	4	0.4%
Not Applicable	1	0.1%
Not Known	1	0.1%
Total	1122	100%

Request for Service Time Frames

Time Period	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total	%
00:00 - 03:00	12	6	9	5	7	3	11	53	4.7%
03:00 - 06:00	13	6	5	5	6	12	11	58	5.2%
06:00 - 09:00	16	19	27	21	16	14	22	135	12.0%
09:00 - 12:00	28	20	24	24	28	24	25	173	15.4%
12:00 - 15:00	21	36	31	30	27	24	25	194	17.2%
15:00 - 18:00	24	35	30	32	26	34	30	211	18.7%
18:00 - 21:00	28	25	18	27	25	33	23	179	15.9%
21:00 - 24:00	11	19	18	11	13	19	21	112	9.9%
Unknown	1	1	1	0	0	1	7	11	1.0%
Total	154	167	163	155	148	164	175	1126	100%

Response Mode

Response Mode to Scene	# of Times	% of Times
No Lights and Sirens	587	52.1%
Lights and Sirens	281	25.0%
Lights, no siren	182	16.2%
Not Applicable	36	3.2%
Unknown	33	2.9%
Initial Lights and Sirens, Downgraded to No Lights or Sirens	7	0.6%
Total	1126	100.0%

Transport Mode

Transport Mode from Scene		# of Times	% of Times
	No Lights or Sirens	577	51.2%
	Unknown	391	34.7%
	Lights Only - No Sirens	112	9.9%
	Lights and Sirens	32	2.8%
	Not Applicable	11	1.0%
	Initial Lights and Sirens, Downgraded to No Lights or Sirens	2	0.2%
	Initial No Lights or Sirens, Upgraded to Lights and Sirens	1	0.1%
Total		1126	100%

Average Run Mileage

To Scene			
Miles		# of Runs	% of Runs
	0 - 5	512	65.89%
	6 - 10	100	12.87%
	11 - 15	41	5.28%
	16 - 20	31	3.99%
	> 20	86	11.07%
	Unknown	7	0.90%
Total		777	100%

Average Run Mileage

To Destination			
Miles		# of Runs	% of Runs
	0 - 5	468	60.23%
	6 - 10	20	2.57%
	11 - 15	21	2.70%
	16 - 20	46	5.92%
	> 20	199	25.61%
	Unknown	23	2.96%
Total		777	100%

Disposition

Response Disposition	# of Times	% of Times
Treated, Transported by EMS (ALS)	611	54.3%
Standby Only - No Patient Contacts	114	10.1%
Patient Refused Care	106	9.4%
Cancelled	71	6.3%
Treated, Transported by EMS (BLS)	59	5.2%
Treated, Transported by EMS	49	4.4%
No Patient Found	37	3.3%
No Treatment Required	33	2.9%
Dead at Scene	15	1.3%
Treated and Released	12	1.1%
Treated and Refused Transport	10	0.9%
Crew Shuttle Only - No Patient	4	0.4%
Transported, Treatment by Other Agency	3	0.3%
Treated, Transported by Law Enforcement	2	0.2%
Unknown	0	0.0%
Total	1126	100%

Run Times

Enroute (Responding - Unit Notified Dispatched)		
Minutes	# of Runs	% of Runs
0 - 1	351	31.2%
2 - 3	261	23.2%
4 - 5	182	16.2%
> 5	287	25.5%
Unknown	45	4.0%
Total	1126	100.0%

Response Time (Enroute - Arrive Scene)		
Minutes	# of Runs	% of Runs
0 - 5	732	65.0%
6 - 10	92	8.2%
11 - 15	66	5.9%
> 15	172	15.3%
Unknown	64	5.7%
Total	1126	100.0%

Transport Time (Depart Scene - Arrive Hospital)		
Minutes	# of Runs	% of Runs
0 - 5	284	25.2%
6 - 10	111	9.9%
11 - 14	36	3.2%
> 15	356	31.6%
Unknown	339	30.1%
Total	1126	100.0%

Average Run Times	
Enroute	0:05:12
To Scene	0:10:30
At Scene	0:30:17
To Destination	0:57:56
Back in Service	0:48:28
Total	2:57:57

Appendix B: List of Stakeholders Interviewed

City of Yuma

City of Wray

Idalia Ambulance Service

South Y-W Ambulance Service

Washington-Yuma Combined Communication Center

Wray Ambulance Service

Wray Community Hospital District

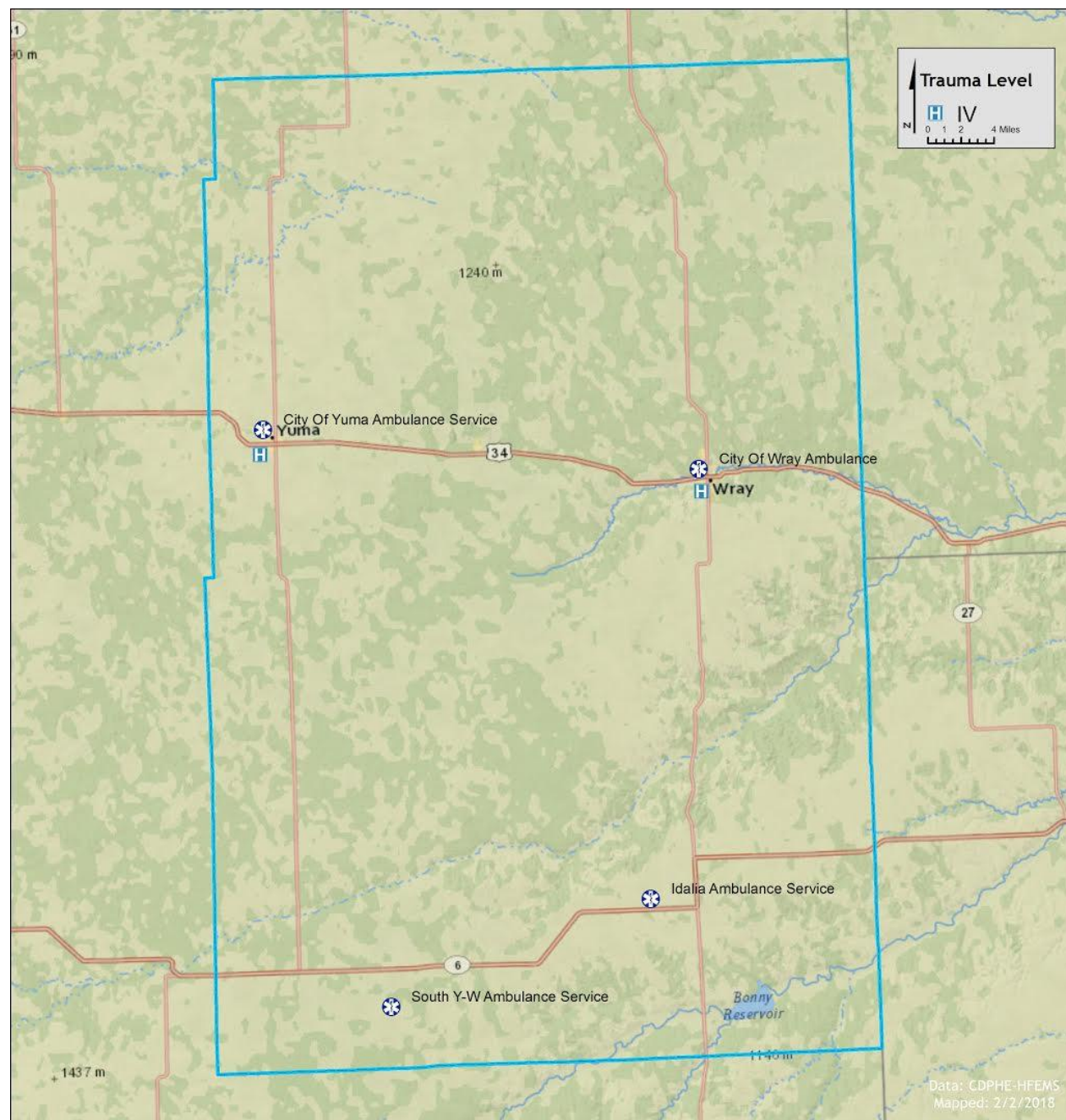
Yuma Ambulance Service

Yuma County Board of Commissioners

Yuma County Emergency Management

Yuma Hospital District

Appendix C: Yuma County Service Map



Appendix D: Assessment Team Biographical Information

Sean Caffrey, MBA, Paramedic

Sean Caffrey is the EMS Programs Manager for the University of Colorado School of Medicine, Pediatric Emergency Medicine Section. He also serves as a part-time captain for Grand County EMS, a county-based ambulance service based in Granby, Colorado. Sean previously served with the Colorado Department of Public Health and Environment, EMTS Section and as the director of Summit County Ambulance Service. 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 Master's 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.

Brandon Daruna, MBA, NRP

Brandon Daruna is the chief paramedic and manager for Gilpin Ambulance Authority in Black Hawk. He also serves as a volunteer lieutenant for the Golden Fire Department and is the managing partner for Access Logic, an ADA compliance consulting company. During his 17-year career in prehospital services, Brandon has been a paramedic and field training officer with Denver Health Paramedic Division, operations supervisor for Northglenn Ambulance, assistant ski patrol director for Echo Mountain Ski Resort and a field paramedic for ambulance services in Louisiana. He recently earned an MBA from the University of Denver and holds a degree in Paramedicine from Delgado Community College in New Orleans, LA. Brandon currently serves as the secretary for the Gilpin County Local Emergency Planning Committee and the Gilpin County Emergency Services Council. He is also a member of the Foothills RETAC, IAEMSC, Foothills/Metro Healthcare Coalition Steering Committee and Eagles Nest Early Learning Center Board.

Erica Douglass, MD

Erica is currently an attending emergency department physician at The Medical Center of Aurora and the Associate Medical Director for AirLife Denver. She is also the Regional EMS Medical Director for the Northeast Colorado RETAC. Erica has provided medical direction and co-medical direction for Aurora Fire Department, Rural Metro Ambulance, Buckley AFB and various combination and volunteer fire and EMS agencies along the east I-70 corridor from Aurora to Limon. Her EMS career began as a volunteer EMT in 1999 for Northglenn Ambulance Company then a paid EMT in 2001. She also worked as an emergency room technician at Rose Medical Center in 2001. Erica continued her training in EMS by attending Denver Health Paramedic School then Medical School at the State University of New York at Buffalo School of Medicine and Biomedical Sciences where she obtained her MD. In 2007 she returned to Denver where she performed her residency and EMS fellowship at Denver Health Medical Center. During training she moonlighted at a variety of Emergency Departments around the state including Prowers Medical Center in Lamar, Estes Park Medical Center and North Colorado Medical Center in Greeley. In addition, Erica has published many articles and chapters in books on EMS and MD topics as well as been an EMS instructor teaching clinical skills and lectures throughout Colorado.

Candy Shoemaker, Paramedic

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.

Phyllis Uribe, RN, BSN, MS

Phyllis Uribe has been a registered nurse for over forty years. Her clinical background includes neurosurgical nursing, Emergency Department, and critical care as both a caregiver and a manager. She worked at Swedish Medical Center from 1982 through 2014, supervising the trauma program from 1992 - 2014. She was responsible for the transition process taking Swedish from a Level II to a Level I Trauma Center verified by the American College of Surgeons and designated by the Colorado Department of

Public Health and Environment (CDPHE). Within the HealthONE system, Phyllis also assisted with development and successful designation of Level II, III, and IV trauma centers. Phyllis has experience in quality improvement on the clinical and the system level, and served as a site reviewer for trauma centers for CDPHE and as an appointed member of the Designation Review Committee. She has participated in gap analysis and process analysis projects for both trauma systems and individual trauma programs. Phyllis is currently Affiliate Faculty in the nursing program at Regis University, a national ATLS Educator and ATLS Course Coordinator, teaches and directs TNCC courses for EdCor, and works for MedPartners HIM and Philips Blue Jay consulting in a variety of consulting and interim program manager roles.

Eric Schmidt, RN, BSN, MBA, EMT-Intermediate

Eric is a Colorado native and began his career in emergency services more than 40 years ago after a call to the community for volunteers to fight a wildland fire southwest of Boulder. He is currently the funding section manager at the Colorado Department of Public Health and Environment, Emergency Medical and Trauma Services Branch. He has provided EMS consulting services, technical assistance to local governments and ambulance inspection services for ten counties in Colorado through his firm, EMS Services, since 1992. His consulting services are supported by a broad array of experiences in emergency medical and trauma services. He contracted with the Northwest RETAC to serve as regional coordinator, was a trauma nurse coordinator for Penrose Hospital, a Level II trauma center in Colorado Springs, and served as the EMS Officer for El Paso County where his duties included management of a high performance ambulance contract for the El Paso County Emergency Services Agency, administration of the county's ambulance licensing program and EMS system coordination. He has also served as the manager for a hospital district that operated an ambulance service and built a community clinic and emergency center during his tenure, directed the EMS training program for Colorado Northwestern Community College, administered federal pass-through grants as a program manager for the Colorado Department of Transportation, collected prehospital data for system analysis as an information system specialist at the Colorado Department of Public Health and Environment, held paid and volunteer positions as an EMT at several rural EMS agencies and served as a volunteer firefighter in Colorado and Wyoming. He earned Bachelor of Science degrees in Nursing, Business Administration and Mechanical Engineering from the University of Colorado, and a Master of Business Administration from the University of Oregon. Eric currently holds a Colorado Registered Nurse license, Colorado EMT-Intermediate certification and a technician level Amateur Radio license from the Federal Communications Commission.

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