

Morgan 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

June 15, 2023

Morgan County
Board of County Commissioners
218 West Kiowa
Fort Morgan, CO 80701

Dear Commissioners,

On behalf of the Colorado Department of Public Health and Environment, we are attaching the Morgan 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 department to review the current status of the emergency medical and trauma services system in Morgan County. The Morgan County Board of County Commissioners and the local emergency medical and trauma services community are to be commended for the dedication and foresight 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 Northeastern Colorado RETAC for its willingness to provide additional resources and support to this effort. Understanding that Colorado statute vests each county with the authority to develop, design and implement local emergency medical services systems, this consultative review is intended to provide insight and information from which the Board of County Commissioners, 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 Morgan 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,

Peter Meyers
Deputy Director
Health Facilities & Emergency Medical Services Division
Colorado Department of Public Health and Environment

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Introduction and Project Overview

The Northeast Colorado Regional Emergency Medical and Trauma Services Advisory Council (NCRETAC) requested a consultative visit from the department on behalf of Morgan County to ensure high-quality emergency services continue to be provided to its citizens and visitors. 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, recruited a consultative visit team to evaluate the emergency medical and trauma services system in Morgan County and make recommendations for system improvement. NCRETAC provided invaluable assistance to coordinate with local emergency medical and trauma services stakeholders and the department in this consultation process.

Under Colorado law, the Board of County Commissioners is currently the ground ambulance licensing authority as defined by C.R.S. § 25-3.5-301. Dispatch and public safety communication services are provided by the Morgan County Communication Center. Morgan County operates Morgan County Ambulance and provides emergency medical response and transport for the county. Volunteer departments in Brush, Fort Morgan, Hillrose and Wiggins provide fire and rescue services. There are two acute care hospitals in Morgan County, Centura-St. Elizabeth Hospital in Fort Morgan and East Morgan County Hospital in Brush. St. Elizabeth is designated as a level III trauma center and East Morgan County is designated as a level IV trauma center. There are no air medical providers based in Morgan County but AirLife and North Colorado MedEvac have rotor-wing aircraft based nearby. Additional Advanced Life Support (ALS) and mutual aid resources are also available from neighboring counties when requested.



Analysis of the current system involved a 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 14 EMS system components identified 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 Morgan 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 survey showed that stakeholders rated the overall effectiveness of the Morgan County emergency medical and trauma services system as 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.

Morgan County Geography and Demographics

Morgan County is located in northeastern Colorado and is neighbored by four other counties including Adams, Logan, Washington and Weld. Morgan County encompasses approximately 1,294 square miles with a mean elevation of about 4,314 feet. The estimated 2021 population provided by the U.S. Census Bureau is 29,008 residents and a population density of 22.7 people per square mile of land area. Most of the population is concentrated in Fort Morgan and along the Interstate 76 corridor. According to 2021 estimates, the population of Morgan County has increased 3 percent from 2010 while the population in Colorado increased by 15.6 percent during this period. The over-65 age group in Morgan County is 16 percent compared to an over-65 population of 15.1 percent for the state. The median household income in Morgan County is \$62,914 compared to \$80,184 for the state, with an estimated 12.4 percent of the population living in poverty, which is higher than the state poverty rate of 9.7 percent. The median home price is estimated at \$332,500 compared to a state median price of \$551,000. The county is behind the state in the area of health insurance coverage, with an estimated 16.3 percent uninsured compared to 9.3 percent for the state. The assessed valuation for Morgan County in 2022 was \$671,121,540 compared to the median assessed valuation of \$422,252,153 for the 64 counties in Colorado. Morgan County has a mill levy of 28.983 on assessed valuation but does not levy a sales tax.

Morgan County was created in 1889 from parts of Weld County. The county was named for old Fort Morgan, a frontier military fort named in honor of Colonel Christopher A. Morgan, an officer who served with distinction in the Union Army during the Civil War. Fort Morgan is the county seat and is the largest of the five incorporated municipalities in the county. The South Platte River traverses the county from west to east through the middle of Morgan County. Interstate 76 runs east-west through the center of Morgan County and is the dominant highway transportation corridor. It is abundantly rich agriculturally with many irrigated and dry land farms as well as beef, sheep and dairy ranches agriculture and government are the largest segments of the local economy followed by health care and social assistance, and educational services.

Emergency Medical and Trauma Service Providers

Morgan County Ambulance Service

Morgan County Ambulance Service (MACS) is a county-operated service that provides ambulance coverage to 1,296 square miles, serving a population of around 30,000 residents and visitors. The MACS service crews provide both Basic Life Support and Advanced Life Support to their County in an area of 1,296 square miles; they also provide mutual aid services for parts of surrounding Weld County, Logan County, Washington County, and Adams County.



MACS operates seven ambulances with trained paramedics and EMTs staffing two Advanced Life Support ambulances 24 hours daily. Crews are stationed in Fort Morgan and Brush, with limited, local, off-duty staff covering additional services as needed, and that need is increasing. The ambulance service employs paramedics, EMT intermediates, and EMT basics, 12 of whom are full-time County employees. The EMS providers are split into three, four-person crews, working a 72-hour shift followed by 144 hours off. While on shift, these crews respond to provide medical services to the community, maintain equipment and supplies, and provide training for internal staff and community partners. With the significant amount of service delivery these crews offer, which continues to increase, it's becoming apparent that additional funding options will have to be explored if the County wants to continue the excellent service they provide their community.

Patients are usually transported to one of the two local hospitals within Morgan County, a level III trauma center in Fort Morgan and a level IV trauma center in Brush. Patients in the extreme western portion of the County and many requiring helicopter transport are often transported to Northern Colorado Medical Center, a level II trauma center in Greeley, CO, or a level I trauma center in Denver, CO.

Morgan County Communications Center

The Morgan County Sheriff's Dispatch is the primary communication system for all of Morgan County. Morgan County has reasonably good coverage with the statewide digital trunked radio system, which provides interoperability with EMS, law enforcement and fire services. EMS personnel communicate with hospitals and medical direction by radio or cellular phones.

Morgan County Fire Departments



Local fire departments co-respond to EMS calls, with varying criteria from department to department, but does not require members to carry specific EMS credentials. A strong collaborative relationships exist between EMS and fire services, both in response and training. EMS staffing concerns have often resulted in volunteer fire department members to be relied upon to support driving the ambulance to the hospital.

Brush Volunteer Fire Department

The Brush Volunteer Fire and the Brush Rural Fire Departments serve to operate a department of firefighters, four of whom are EMTs, covering an area of 213 miles and running approximately 300 calls for service. Firefighters serve the city and surrounding rural districts by providing structure protection, emergency medical services, and wildland firefighting capabilities.

Fort Morgan Volunteer Fire Department

The Fort Morgan Volunteer Fire Department was established in 1894 to prevent and control fires, assist during emergencies, and promote good fellowship among members. The department has progressed over the years, with the addition of trucks, equipment, and training facilities. FMVFD is composed of two fire departments, one for the city and one for the rural district and is staffed currently by 26 volunteers who respond to calls from home or work. These departments are funded through their respective response districts. The Rural department is a special district that collects a mil from residents. The city department is funded from the town's general fund. The department also employs 4 Vehicle Service Technicians, non-responders who maintain equipment and provide a constant presence at their fire station; this structure has been around since the 1930's. The department averages 600 calls per year, and its members are required to have at least 36 hours of training per year. FMVFD also teaches fire prevention and safety to school children through its Safety Pals program. Notably, the department operates with one staff but two separate sets of equipment, one for the city and one for the rural district. This structure is not uncommon however it may contribute to redundancies and may be an opportunity to streamline resource allocation to increase support for other system improvements.

Hillrose-Snyder Fire Protection District

The Hillrose-Snyder Fire Protection District operates a department of firefighters, 2 of whom are EMTs, covering an area of 235 square miles in Morgan & Washington Counties. These firefighters respond on all medical responses within their response area, which consists of approximately 200 calls for fire and EMS service.

Wiggins Volunteer Fire Department

The Wiggins Rural Fire Protection District is a title 32 special district, which operates in Morgan and Weld Counties. From three stations, 31 volunteers respond to approximately 450 calls per year, of which around 80% are EMS co-response with the Morgan County Ambulance Service. Their fire protection district includes the Town of Wiggins and adjacent areas of Morgan County, which comprises one third of their response area, the remainder is within Weld County. The district is funded through property tax with a similar distribution between Morgan and Weld Counties. The Town of Wiggins is one of the fastest growing areas of Morgan County, as it becomes a bedroom community for more economically developed cities and towns on the I-76 corridor towards the Denver Metro Area. Common to most of the area's fire departments, they struggle with response during the workday and the continued recruitment and retention of committed volunteers.

Air Medical Services

There are not currently any air ambulances based in Morgan County. Nearby Rotor-wing air medical coverage for Morgan County is primarily provided by North Colorado Med Evac based in Greeley, Akron, and Sterling. The next closest air medical resource is the helicopter based in Holyoke operated by AirLife Denver and REACH Air Medial in Loveland. Colorado-based fixed wing air medical coverage is available through AirLife Denver and Flight For Life Colorado. Both agencies operate out of Centennial Airport. Several air ambulance services also offer specialized transport capabilities for neonates and high-risk obstetrical patients by air or ground. During the stakeholder interviews it was noted that weather is a common factor delaying critical care transport and that critical care services are frequently dispatched for a ground response to complete transfers.

Centura - St. Elizabeth Hospital

St. Elizabeth Hospital is located in Ft. Morgan, Colorado. Centura Health acquired St. Elizabeth Hospital, formally known as Colorado Plains Medical Center, on May 1, 2022. The hospital became part of the Catholic ministries with CommonSpirit Health. Its mission remains focused on the commitment to deliver safe, quality care for the neighbors and patients of the community in which it has served for more than 70 years. St. Elizabeth Hospital has been fully accredited by The Joint Commission since 1954. The hospital is a 50-bed acute-care hospital with a Level III Trauma Center, designated by the Colorado Department of Public Health and



Environment. There is a 24-hour Emergency Department with board-certified emergency physicians 24 hours/7 days a week. The Emergency Department is staffed with 1 provider and 2 RN's. The hospital had 5,132 Emergency Department visits, 227 transfers to an acute care hospital, and 1,697 admissions to St. Elizabeth Hospital since the acquisition in 2022. Services include a nationally recognized chest pain center with cardiopulmonary care, digestive health, general surgery, home health, intensive care, obstetrics and gynecology services, orthopedics, physical, occupational, and speech therapy, and wound care. The Partners in Care Community Outreach Program utilized by the cardiac department continues to educate the community with AED and hand-only CPR training. St. Elizabeth Hospital employees 204 team members.

St. Elizabeth Hospital indicates it has an excellent relationship with Morgan County Ambulance but that simultaneous demand for ambulances occasionally creates delays for their interfacility transfers to a higher-level care facility on the Front Range or in Denver. When staff was asked about their relationship with EMS, many indicated that the relationship is great, but can be taxing when the EMS crews are fatigued from the high volume of patient transports. The hospital staff wishes to continue to develop and grow this relationship with EMS, on a daily basis as well as any educational opportunities, disaster drills, etc. that can be shared.

Due to the location of St. Elizabeth Hospital, weather can plan an important factor in transferring their critically ill patients who need a higher level or specialized care to the Front Range or Denver. There is discussion of creating an ability for critical care ground ambulance at St. Elizabeth to assist with getting these patients to another facility.

St. Elizabeth Hospital is continuing to grow in the local community, as well as reach out to other communities in the region. They would like to see a more regional approach to healthcare which would provide better opportunities for the patients in these communities and for the entire region.

East Morgan County Hospital

East Morgan County Hospital is located in Brush, Colorado. Originally known as Elim Hospital that opened its doors in 1910. In April 1954, a transition in hospital management took place with the Lutheran Hospital and the Home Society of Fargo, ND (now known as Banner Health). In 1963, a campaign began to form a hospital district and in 1967, the East Morgan County Hospital District was dedicated and took ownership of the hospital, the same year the current building opened. In December 2014, a 32,000 sq. foot



expansion was completed, making 19 single-patient rooms, a new kitchen and dining area, main entry and lobby. This expansion allowed East Morgan County Hospital to bring back Labor and Delivery with a three-bed unit and a dedicated operating room. The hospital is owned by the East Morgan County Hospital District and is leased by Banner Health. Most of the disposable medical equipment is supplied by Banner Health, with the building and maintenance costs funded from a mill levy. The hospital district has several local foundations that can assist with funding for capital projects.

The Emergency Department has a board-certified level IV trauma center and is staffed by a board-certified provider 24 hours/7 days a week. There is no mid-level provider coverage. The three top mechanisms of injury for their trauma patients are falls, agriculture injuries, and motor vehicle accidents. There are approximately 240 employees of the hospital in which the nursing staff are employees of Banner Health. The hospital has an exceptionally low staffing turn-over rate at less than 10%. They attribute this to their consistent meetings with their new employees by both the leader team and their preceptors. East Morgan County Hospital has an excellent relationship with Northeastern Junior College in Sterling and Morgan Community College in Ft. Morgan which also contributes to their staffing plan. Their ED arrivals are approximately 60% by private vehicle and 40% by EMS. EMCH has 2 operating rooms but no Intensive Care Services. Their average inpatient census is 6 patients per day.

East Morgan County Hospital states that they have a good relationship with Morgan County Ambulance Service and were excited when Morgan County Ambulance Service was able to station an ambulance in Brush. They regularly share education and disaster drills. The hospital relies on Morgan County Ambulance Service for their interfacility transfers by ground, which averages about 40 patients a month. Transportation by air ambulance is frequently not readily available due to weather constraints; this may lead to prolonged periods in the Emergency Department awaiting transport. Most of these interfacility transfers are approximately 60 miles, one way.

East Morgan County Hospital is excited to continue growing their relationship with St. Elizabeth Hospital in Ft. Morgan, since the transition to Centura Health. Leadership will continue to pursue avenues in which to better patient care in the region.

Morgan County Emergency Management

The Morgan County Office of Emergency management is a department of county government with adequate committed resources. The office employs one full time employee addressing emergency management. The department recently, with collaboration from stakeholders, completed the Colorado Emergency Preparedness Assessment process. They maintain an integrated preparedness plan and use the OnSolve CodeRED system to notify residents of impactful emergencies by text, phone, and email. The OEM engages in regular one on one meetings with response stakeholders; however, notably absent is the coordination of county wide emergency services communication or standing meetings. The OEM relayed concern about process and planning for healthcare facility evacuation but has not participated in regional structures like the Healthcare Coalition. There is no regular Local Emergency Planning Committee structure, nor does the OEM coordinate planning for Mass Casualty Incident (MCI) exercises.



Scan to Signup

Morgan County Sheriff's Office

The Morgan County Sheriff's Office and the EMS agency appear to have a strong working relationship. The sheriff's office is equipped with naloxone, tourniquets and AEDs to increase their capabilities as primary responders to medical and trauma emergency calls. As with most counties there is an increase of mental health issues and this is becoming a burden on both the sheriff's office and the EMS responders. Between the two agencies they seem to be keeping up with this increase in volume but it is straining the system. Staffing is a big issue for the sheriff's office as is in most counties. The sheriff's office is concerned with the lack of information given to them on their mobile data terminals when responding to EMS calls. The lack of information is a safety issue on the sheriff's office side. The county communications manager is working with the EMS manager to resolve this issue.

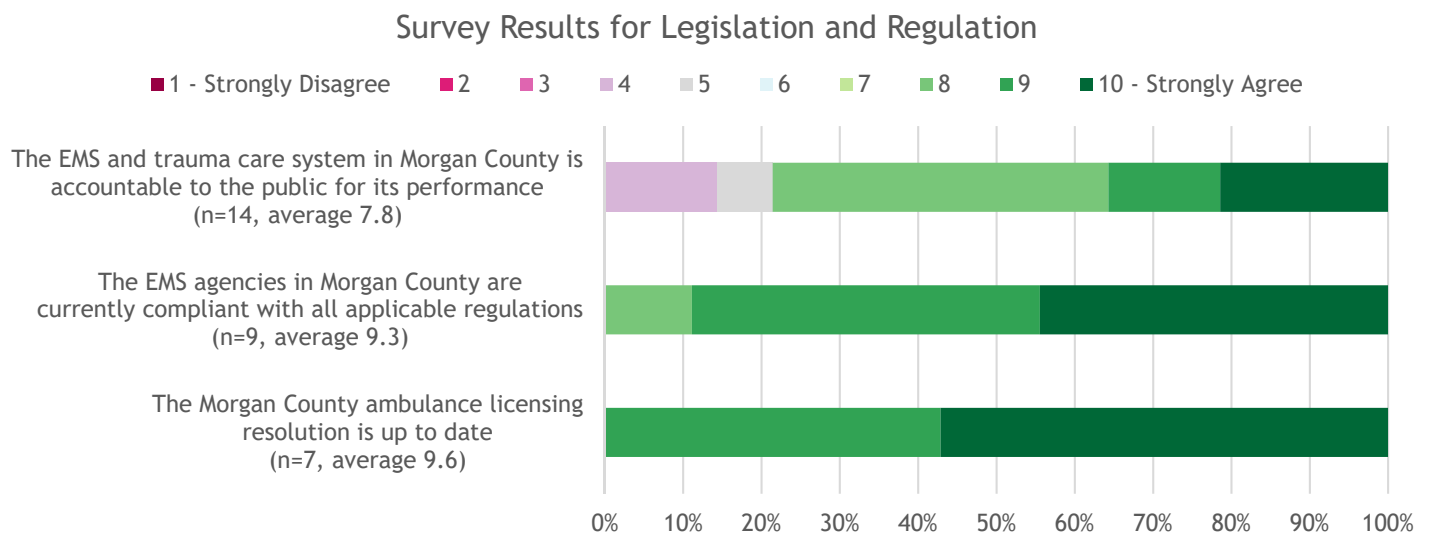
Morgan Community College

Morgan Community College was established in 1970 as Morgan County Community College. They joined the state college system in 1973 and was renamed Morgan Community College. Currently the college is member of the Colorado Community College System. The main campus is in Fort Morgan and has satellite locations in Burlington, Limon and Wray. Starting in 1990 they began offering Associates Degree in Nursing. They are recognized by Colorado Department of Public Health and Environment to provide initial education for emergency medical services at the Emergency Medical Responder (EMR), Emergency Medical Technician (EMT) and Advanced Emergency Medical Technician (AEMT) levels.

Analysis of Morgan County EMTS System Components

Stakeholders representing all aspects of the emergency response and public safety systems in Morgan County were interviewed during the on-site portion of the consultative visit. An anonymous survey was also available for stakeholders to rate aspects of the county EMTS system. There were 25 responses from local government, EMS services, and trauma services stakeholders. EMTS agencies in Morgan County provided supporting documents, and additional information was gathered from the U.S. Census Bureau, Colorado Division of Local Government and the department. The analysis of EMTS system components in the following sections considered information from the interviews, the opinion survey and factual data from a variety of sources.

Legislation and Regulation



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. This includes the regulation of Community Integrated Health Care Services, a setting in which an endorsed community paramedic may provide out-of-hospital medical services. Currently, 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. Most counties establish ambulance licensing requirements through resolution or ordinance. Senate Bill 22-225 created the EMS System Sustainability Task Force and transitioned the regulatory authority of ground ambulance licenses and permits to the Colorado Department of Public Health and Environment beginning July 1, 2024 to align with the state sole authority to set forth rules regulating individual EMS provider education, medical direction and scope of practice. The statute has provisions that a county or city and county may opt to participate in granting authorizations to operate in their jurisdiction. 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.

Morgan County Ambulance Resolution

The Morgan County resolution governing licensure of ground ambulance services currently in effect was initially adopted March 2022.

Special Districts

East Morgan County Hospital District is a health services district and Brush Rural Fire Protection District, Fort Morgan Rural Fire Protection District, Hillrose Rural Fire Protection District, New Raymer-Stoneham Fire Protection District, and Wiggins Rural Fire Protection District are fire protection districts all 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 the health services and fire protection 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

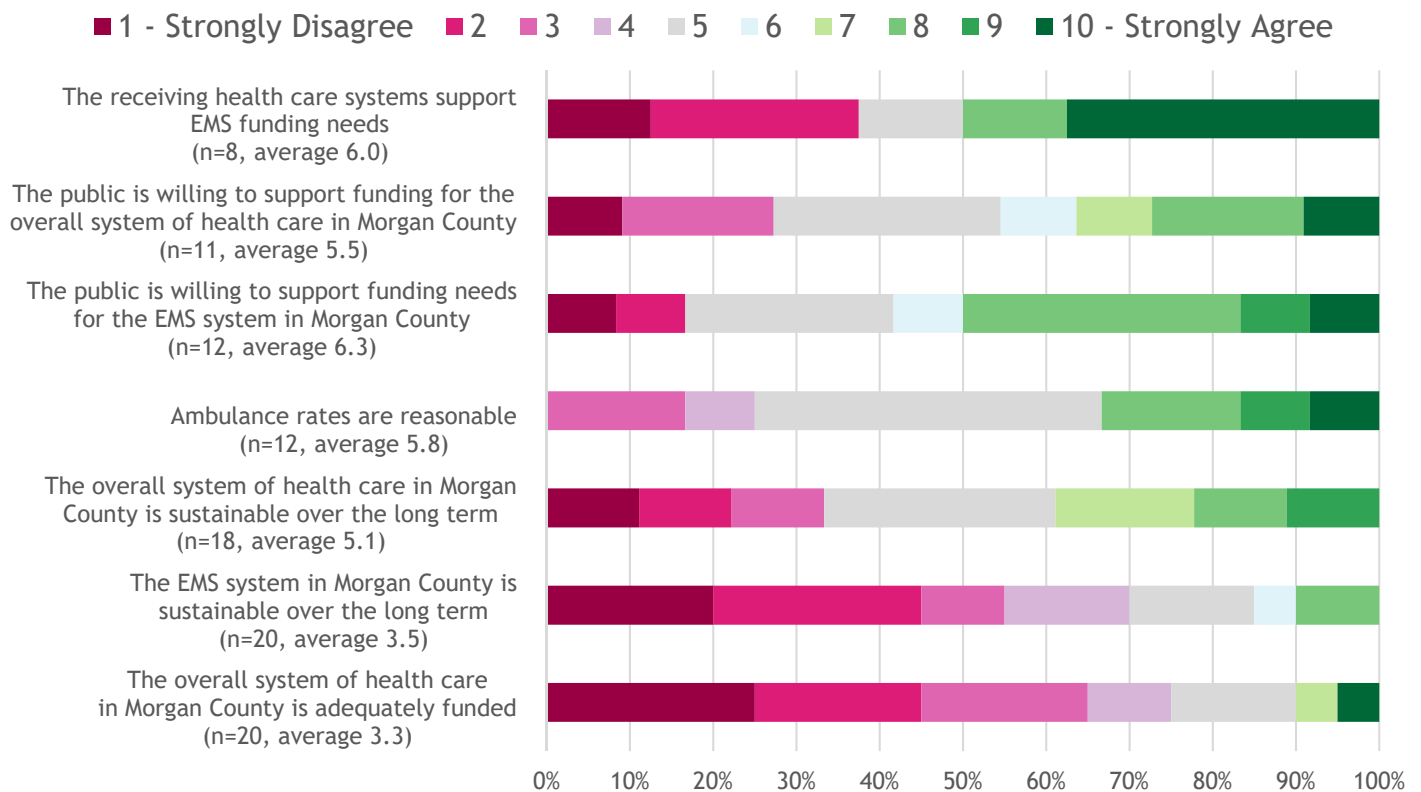
Colorado has 11 regional emergency medical and trauma services advisory councils (RETACs) to help provide a coordinated approach to emergency medical and trauma care. Each RETAC consists of five or more counties that participate through an advisory council and is responsible for creating a biennial plan 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. Morgan county is a part of the Northeast Colorado RETAC which also includes Jackson, Larimer, Logan, Weld, Phillips, Sedgwick, Washington and Yuma Counties. The Northeast Colorado RETAC board of directors has 18 representatives that are appointed by the Board of County Commissioners in each county.

Recommendations

- Consider the formation of a local multidisciplinary EMS council to advise the Board of County Commissioners on EMS issues including system development and requests and sources for supplemental funding. Consider including representation from ground ambulance, air ambulance, EMS medical direction, and trauma services, law enforcement, fire departments, the office of emergency management, and public health.
- Evaluate updates to the ambulance licensing resolution to comply with the changes for statewide ground ambulance licensing and consideration if the county will opt out of establishing a local authorization to operate or need to further develop the authorization process once the regulations are adopted.
- Consider engagement with the department's Ground Ambulance Licensing Task Force in the development of the regulations regarding local authorization to operate.
- Consider engagement in the state legislative EMS System Sustainability Task Force.
- Each special district 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

Survey Results EMS System Finance



The emergency medical and trauma systems providers, county leaders, and partners who participated in the consultative visit and were forthcoming with their opinions and challenges. The Morgan County Ambulance Service provides EMS services through an enterprise of Morgan County government, they do not receive tax dollars and sustain their system purely on patient derived revenue and some state grant funding. This lack of property or sales tax support for EMS operations is unusual in today's industry landscape, for a system in this size category that does not benefit from the efficiencies of scale. Unless noted, data included in this section is based on 2021 audited financials.

Ambulance Finance

The Morgan County Ambulance Service is an enterprise of Morgan County and sustained its operations on patient derived revenue (\$1,459,072) and grant funding (\$65,297) in 2021 with an audited loss of \$45,765. Interviews with county and EMS leadership expressed concern that operating as an enterprise of the county is no longer sustainable. The lack of sustainability and current funding inhibit the services ability to recruit and maintain staffing to meet the 911 and interfacility transportation needs of the community. Interviews from multiple sources confirmed that a regular failure of the system has resulted in the need to take a staffed ambulance out of service for prolonged periods due to lack of staffing or prolonged pickup time for interfacility transports because no staffed ambulances were available. Additionally, current staff and equipment is being utilized beyond safe limits. Morgan County Ambulance Service has avoided a system collapse because of the efforts of a small core of dedicated community members who go to herculean lengths to support the system.

	Ambulance Service
Operating revenues	
Charges for services	\$ 1,459,072
Miscellaneous revenues	22,277
Total operating revenues	<u>1,481,349</u>
Operating expenses	
Compensation and benefits	1,098,363
Operating supplies	63,772
Purchased services	144,770
Fixed charges	195,123
Depreciation	90,363
Other expenses	10,651
Total operating expenses	<u>1,603,042</u>
Operating income (loss)	<u>(121,693)</u>
Nonoperating revenues	
State grant	63,197
Other grants and donations	2,100
Interest	1,400
Gain (loss) on disposal of assets	9,231
Insurance recovery	-
Total nonoperating revenues	<u>75,928</u>
Change in net position	(45,765)
Total net position, January 1	2,387,474
Total net position, December 31	<u>\$ 2,341,709</u>

The Colorado EMS System Sustainability Task Force, has developed tools to help local governments understand the true cost of EMS services based on call volume and system size. The pro forma model developed by members of that task force estimated that the total expenses for a medium sized agency with a similar payor mix would have an estimated \$4,000,000 in expenses. This is in comparison to the current expenses of Morgan County Ambulance Service which were audited at \$1,603,000 in 2021. This significant difference in cost is primary related to staffing the system appropriately for its size and annual call volume. The assumptions of the model are based off of appropriate scheduling and competitive retention of staff but is not an argument to simply increase the salary and benefits for existing employees, although that is also part of the calculation, but an increase in staffing to address the overarching system concerns. The system is currently accomplishing call coverage through a mixture of heavily burdened employees and a PRN paramedic who maintains availability and provides primary coverage for the community.

It is imperative that the Morgan community quickly makes appropriate investments in shoring their EMS system to avoid continued periodic failure and mitigate any potential system collapse. Although a short term injection of cash funds from the County general fund may cover immediate needs this does not appear to be a long term solution, but requires a thoughtful approach to the construction of the systems long term fiscal sustainability, involving partner and community stakeholders. Options are discussed at the end of this section.

County Emergency Services

The Morgan County fire and law enforcement response structures are representative of many rural systems design and funding models. Fire systems are almost exclusively volunteer, funded through property and sales tax collection and grant opportunities. A split between rural special districts and municipal departments, lends itself to some redundancy in equipment across districts. The overwhelming opinion of fire leaders was that EMS was underfunded and stretched thinly across their districts.

Local law enforcement agencies are also funded exclusively through taxation with traditional county-based sheriff and municipally base police structures, all paid. They play a supportive role in EMS response. The county

communications system is a department of Morgan County and sustains itself through 911 device fees. There is no shared cost of dispatching or communications systems across responding agencies.

EMS is the only response organization that does not benefit from tax investment. If one included the revenue that EMS generates in the overall community emergency response investment, they receive 9% of the \$17,348,483 total. It is important to note, however, that they are the only revenue generating aspect of the response system and receive 0% of the taxpayer support contributing to the funding other partner agencies. As you can see in the chart below, the sum of community investment in the emergency response system is sizable, but none of tax revenue is directed to support the ambulance service, due in part to its status as a business enterprise of the county.

Agency	Annual Revenue
Fort Morgan Ambulance	\$ 1,603,042.00
Sheriff	\$ 2,545,282.00
County Jail (Sheriff)	\$ 2,430,217.00
Ft Morgan Fire (Rural)	\$ 1,000,000.00
Ft Morgan Fire (City)	\$ 955,115.00
Wiggins Fire	\$ 1,661,446.00
Wiggins Police	\$ 350,000.00
Brush Fire	\$ 76,122.00
Brush Police	\$ 1,379,677.00
Communication Center	\$ 838,605.00
Ft Morgan Police	\$ 4,508,932.00
Total Tax Investment	\$ 15,745,396.00
Total Response System	\$ 17,348,438.00
EMS Budget as a percentage	9%

Health Facilities

Trauma services at both hospitals in Morgan County are provided through their emergency departments as a supplement to existing services and on an as needed basis. The East Morgan County Hospital is funded in part by the East Morgan County Hospital District (\$2,876,748 - from the 2023 district budget) and is managed by Banner Health. The Centura St. Elizabeth Hospital does not receive taxpayer support and is part of the Centura hospital system in Colorado. Rural hospitals face challenges such as unfavorable payor mix, insurance and reimbursement changes, and staffing shortages, which affect their cost structure. Despite this, they continue to provide high quality care.

Both hospitals rely on EMS services from Morgan County Ambulance to move patients from their facilities to specialty definitive care in the Denver Metro area and admit to not currently having sufficient service. Concerns were expressed that care is sometimes altered to assure that patients can easily achieve transport from BLS ambulances. Nursing staff at both facilities also pass along their concern for the safety of EMS providers as they often look very tired when arriving to transfer patients.

Recommendations

The community should collaborate to have a thoughtful discussion about the best future structure for EMS in Morgan County, there is time sensitivity to addressing the gaps in the current organization. We recommend, first and foremost, that the Morgan County Ambulance Service be funded properly to address current system demands, with the safety and longevity of the staff and system in mind. Once the current structure is stabilized, the following recommendations can be considered.

- Operate the ambulance service under a special purpose local government (Title 32 Special District or local government authority).

Advantages:

- As a single purpose special district are able to be directly responsive to community needs of the community based on the service plan.
- Directly accountable to the public through an elected board.
- Has a single purpose so the ambulance service does not compete against other budgetary priorities for resources.
- Has a single purpose so the cost to provide ambulance service is clear to the public.
- If an authority is formed, it may be able to take advantage of existing administrative infrastructure of the local government partners for personnel, finance, other administrative functions, or other medical specific questions

Disadvantages:

- Formation of a special district requires a public vote, a minimum of two years should be allotted for the new structure to be in place and providing service.
- If an authority is formed, the process can be accomplished on a shorter timeline, but negotiating an intergovernmental agreement between the local government partners can still be a protracted and expensive process.
- A special district must establish a new administrative infrastructure that may be duplicative of other local governments. The infrastructure for medical billing, quality management, continuing education and other ambulance-specific functions must be established.
- The new entity has no experience running ambulance operations.
- The new entity has no facilities.
- Ownership of ambulances, medical equipment and other capital assets required to provide services must be transferred to the new entity.
- The new entity must contract with outside vendors for maintenance and repair of cardiac monitor-defibrillators and other medical equipment.
- The concentrated focus on ambulance service will enhance clinical sophistication and quality of services.
- A new taxing entity, or authority, would increase revenue generated through taxation of the community. An authority cannot levy taxes on its own. Any tax must be levied by a constituent government.

- Operating the ambulance service as a department of Morgan County.

Advantages:

- Morgan County has the legal authority to operate an ambulance service.
- Elected officials and the administration of Morgan County believe that ambulances are essential to the county and express a strong desire for the long-term sustainability of ambulance service delivery.
- Morgan County has established a reliable funding source for subsidizing the sustainability of providing ambulance services beyond revenues collected from service fees.

- Morgan County currently provides infrastructure to department's political oversight and administration.
- The county can provide fleet management, finance, human resources, and other ancillary functions potentially with more efficiency through scale.
- Opportunities for collaboration with public health and development of Community Integrated Health Care Services (CIHCS) exist to fill gaps in healthcare services.

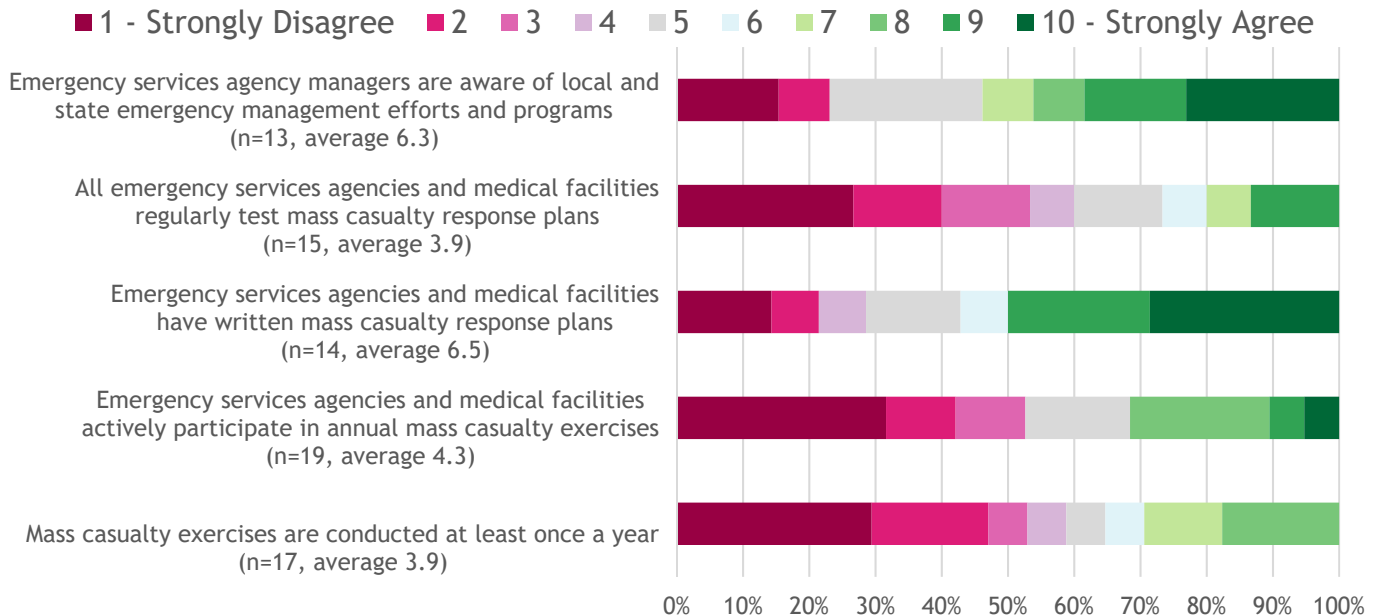
Disadvantages:

- The ambulance service will compete for resources with other essential county services such as law enforcement, road and bridge, and public health.
- Transitioning the ambulance service from an enterprise fund, Morgan County will have to dedicate some of its general fund dollars to subsidize ambulance operations.
- Additional investment in EMS, no matter the structure, will either move funding from other priorities or increase tax contributions.
- As a department of the county, the ambulance service will not be sole focused which may make developing expertise more challenging.
- EMS providers falling into the county compensation structure may provide challenges in being competitive for workforce recruitment and retention.
- Grant funding may be more challenging to compete for with a financial structure that includes all county operations as opposed to a focused EMS profit and loss statement.
- Considerations regarding risk exposure and liability from operations of the ambulance service.

It is infeasible to generate enough patient derived revenue to support the needed staff, equipment, and sustain the current level of operations of the Morgan County Ambulance Service as an enterprise of the county. Sustainability evaluations of EMS agency efficiency, the range from 3,000-5,000 calls tends to be the most inefficient and expensive, relying on taxpayer subsidy. In contrast, only the larger systems take advantage of economies of scale and require much less to no subsidy. In order to move forward with a sustainable and safe system, Morgan County should develop a revenue stream to fill this gap.

Mass Causality Response

Survey Responses for Mass Casualty Response



The office of emergency management occupies the lead role in planning and preparing for all large-scale incidents in Morgan County, including mass casualty response. It is imperative that this coordination is centered in emergency management, as the preparation, response, mitigation, and recovery from such incidents requires county, state, and sometimes federal coordination. With this in mind, individual organizations must develop their own MCI response plans, specific to the nuances of their organization and their role in specific events. These plans need to be de-conflicted with all partner and stakeholder agencies as well as be regularly exercised, evaluated, and edited, to reflect the constantly changing environment in which EMS and emergency management operates.

Morgan County, similar to most rural and frontier counties, has very limited deployable resources to manage a large-scale event. This reality places even a greater emphasis on preparation and planning. Morgan County's limited scope will not simply be the number of ambulances or fire engines, but also stress or exceed the capacity to care for multiple patients at local healthcare facilities, and the ability to move complex patients to definitive care facilities in the Denver Metro Area. Morgan County would need to rely on support from neighboring jurisdictions to effectively manage such a situation, which much be considered and planned for in advance. The distances involved between mutual aid agencies and adjacent county systems will impact a timely response, and patients access to care. Air ambulance should be considered as a valuable resource in the EMS system, these types of incidents often occur during inclement weather, which limits availability of them as a primary resource.

Mass casualty incident preparation is an integrative process where plans are created, exercised, evaluated, and revised. This in-depth process not only yields an effective plan, but more importantly, builds relationships between partner agencies while illustrating the rolls each would play in different incidents. It is imperative that collaboration and planning for these events occur well in advance of incident mitigation. Structures that help facilitate this familiarity include participation in regional efforts like the healthcare coalition, RETAC, and the Northeast All Hazards Region as well as engagement in activities and training from the Colorado Emergency Planning Committee. These groups are beneficial in helping to structure the formation of Local Emergency Planning Committee (LEPC) and add valuable relationship building and collaboration.

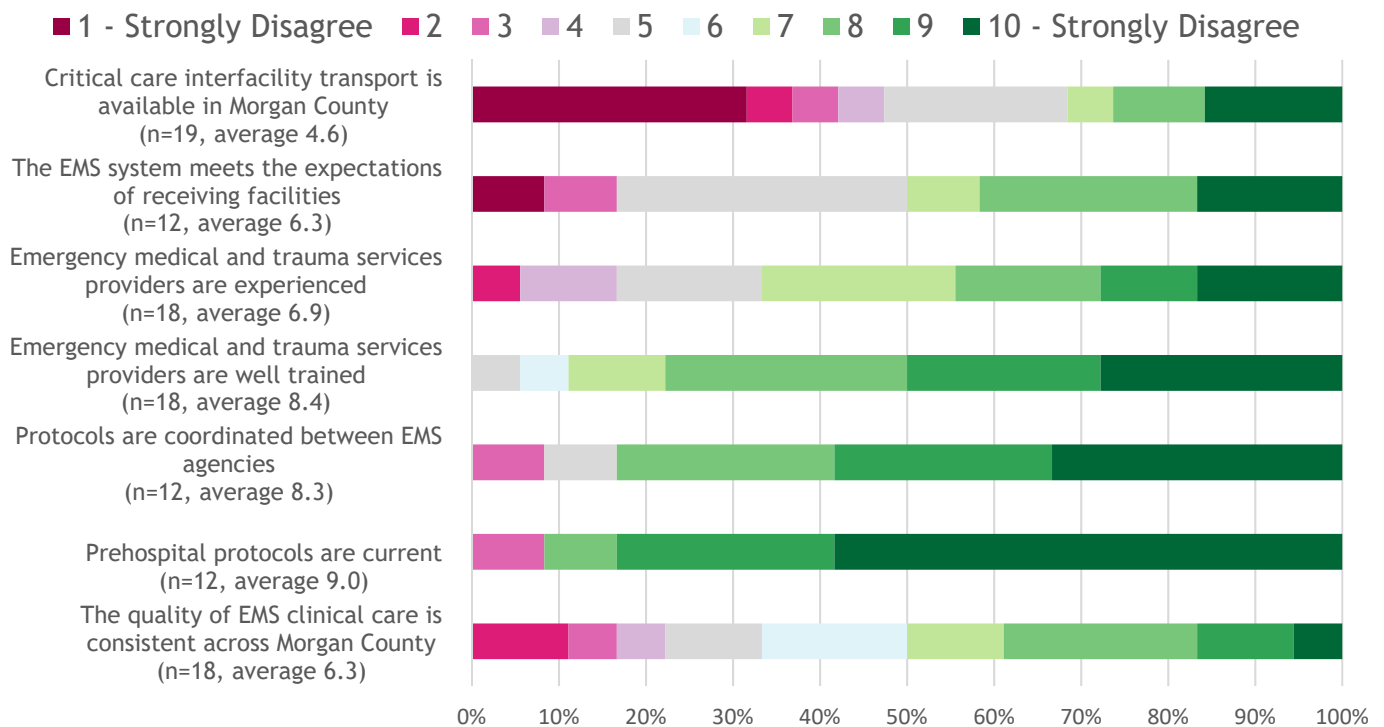
Recommendations

- The OEM should consider forming an LEPC committee
- Develop a standing regular emergency services meeting where global system performance, challenges, and response to significant incidents can be planned.

- Host a work session where all Morgan County MCI stakeholders come together and identify current resources, capability, and gaps.
- All agencies should develop internal MCI response plans. These plans should then be de-conflicted with local and regional partners.
- Develop MCI plans that better address the risk that existing chemical storage / manufacturing poses to the community and exercise the plans for response to these specific threats.
- Using the Colorado Emergency Preparedness Assessment (CEPA) an MCI tabletop exercise should be planned and executed to evaluate existing response and then tailor a full-scale exercise that is both well attended and evaluated by a third party. Consider funding assistance by writing a system improvement grant to hire a third party facilitator.
- Build mutual aid relationships with regional partners highlighting the role that the region will play in a large incident response. Include the region in all planning, de-conflicting plans across partner counties and building the regional response plan.

Clinical Care

Survey Responses for 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 agency. Local fire departments routinely respond with the ambulance on medical calls but a limited number of fire department volunteers have some medical training. Access to critical care transportation services was highlighted both in the interviews and survey and relied on resources from outside the county to provide transportation by air or ground ambulance. Anecdotal mention during interviews of stakeholders notes that a when advanced life support capability were unavailable that facilities had to weigh and consider options wait for available ALS resources to transport or consider actions needed to facilitate downgrading the level of service necessary to BLS, potentially impacting the timeliness of the transfer to a higher level of care or specialty facility. The appropriateness of EMS clinical care in Morgan 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 twelve state-recognized paramedic education centers, none of which are in Morgan County and providers must travel to receive advanced training. A paramedic educational program takes between 8-16 months to complete.

EMS Protocols

The Morgan County Ambulance Service has well-thought-out and up-to-date EMS protocols, last updated September 2022. The protocols appropriately contain on-scene and interfacility transfer protocols. Morgan County Ambulance

Service is responsible for the majority of interfacility transfers that originate at St. Elizabeth Hospital and East Morgan County Hospital. Protocol meetings occur bi-annually and are attended regularly by the agency medical director. Over the course of the year, the protocol document is reviewed in its entirety and is updated as appropriate. The ambulance service does not typically incorporate published consensus statements, guidelines or urban protocols into their protocols. Nevertheless, the protocols appear up-to-date and reflect standard of care.

Morgan County Ambulance Service is responsible for most hospital transfers to definitive care. There are anecdotal reports of delayed 911 scene times and delayed transfers due to sheer volume of 911 calls in combination with local transfer needs. The ambulance service crews also report excessively long awake-times in order to complete all patient contacts. Morgan County Ambulance Service is responding to nearly ten 911 calls each day. The ability of the ambulance service to provide interfacility transfers will continue to be limited.

Clinical Education and Staffing

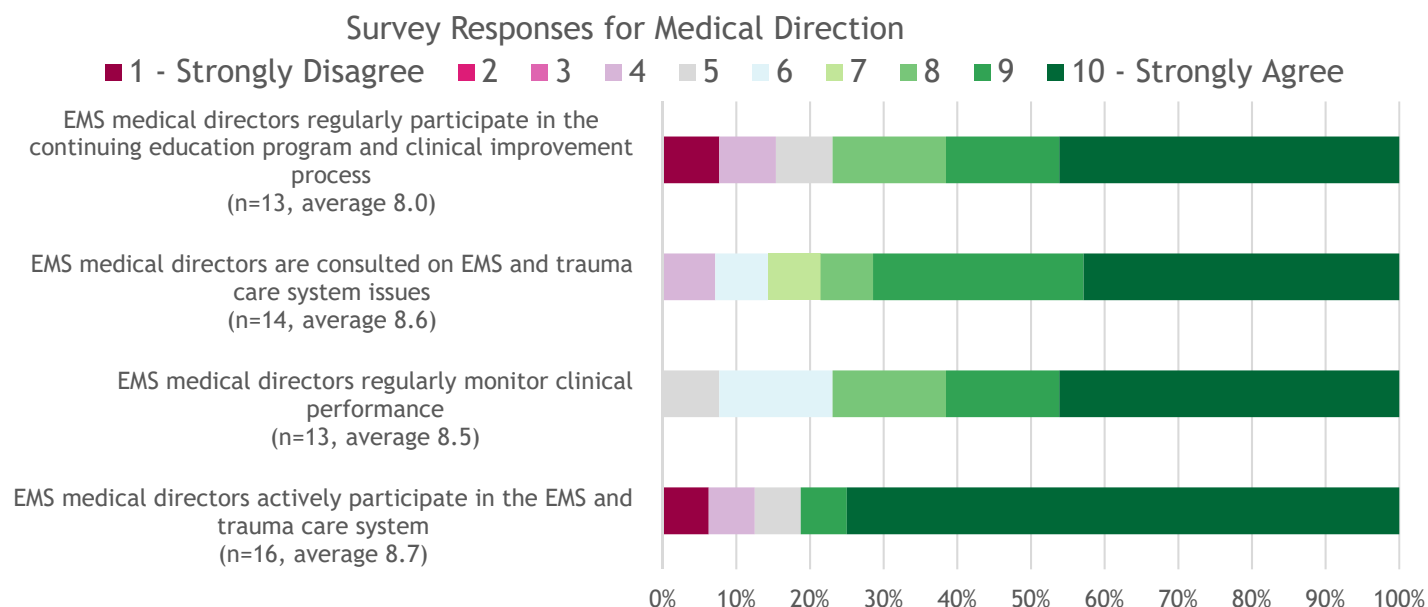
Education is an integral component of the ambulance service. Morgan County Ambulance Service has been without an education coordinator for greater than 12 months. Currently, the education program, similar to the CQI program, is completed by one of two agency leaders. Continuing medical education is offered monthly and focuses on all mandatory subjects as established under the National Registry of Emergency Medical Technicians. There is minimal involvement from critical care partners, physicians, nurses or outside EMS educators.

The sustainability of EMS in our rural communities can't be understated; It's greatly compromised. There are clinical implications to staffing shortages. There was an anecdotal mention of paramedics needing to respond to multiple calls, thus leaving an ALS appropriate patient in the hands of an BLS providers in order to respond to other calls. The ambulance service director should be recognized for his creativity and ability to adapt to the needs of the community despite the numerous constrictions he faces.

Recommendations

- Consider utilizing published consensus statements, guidelines and urban EMS protocols to guide protocol changes. Sources could include the National Association of EMS Physicians (NAEMSP), American College of Emergency Physicians (ACEP), The American College of Surgeons (ACS), EAST and WEST Trauma guidelines and the American Heart Association.
- Ensure retention of current staff. Focus on recruitment and explore all avenues to help the agency recruit sufficient staff.
- Explore employee wellness opportunities, adequacy of benefits and salary. Consider hiring a consultant to assist with recruitment and retention.
- Staffing limitation compromises the education program. Consider alternative instructors to offload burden of agency leadership. This could include critical care services, physicians, nurses, or EMS for Children Colorado for assistance.

Medical Direction



The role of an EMS Medical Director is to provide medical oversight, leadership, and guidance to the EMS system. The EMS Medical Director is typically a licensed physician with specialized training in emergency medicine or a related field. Their primary responsibility is to ensure the delivery of high-quality prehospital medical care to patients in emergency situations.

The EMS Medical Director is responsible for establishing and implementing medical protocols that govern the provision of prehospital care. They review and approve treatment protocols, medication administration protocols, and standing orders used by EMS providers.

They play a crucial role in the training and education of EMS personnel. This involves developing and delivering medical education programs, providing ongoing training and updates on new medical advancements, and ensuring that EMS providers maintain their skills and knowledge. They stay abreast of current research and literature in emergency medicine to ensure that the EMS system evolves based on the latest medical knowledge and best practices.

The EMS Medical Director oversees quality assurance programs within the EMS system. They assist in monitoring the performance of EMS providers, reviewing patient care reports, and conducting audits to ensure compliance with established standards of care. They also analyze data to identify areas for improvement and implement changes to enhance patient outcomes.

The EMS Medical Director provides medical direction and consultation to EMS providers in the field. This includes being available to answer questions, provide guidance during complex cases, and make critical decisions regarding patient care, including destination decisions for transporting patients to appropriate healthcare facilities.

EMS Medical Directors often collaborate with other healthcare providers, hospitals, public health agencies, and community organizations to improve overall emergency medical services. They may participate in disaster preparedness planning, public health initiatives, and community outreach programs.

Overall, the EMS Medical Director plays a crucial role in ensuring that the EMS system operates effectively, adheres to medical standards, and provides optimal care to patients in emergency situations. Their expertise and oversight help to improve patient outcomes and enhance the overall quality of prehospital care.

Morgan County Ambulance Service is fortunate to have Dr. John “Jack” Collins as their Medical Director. Dr. Collins has been active in EMS for nearly 44 years. Dr. Collins is a

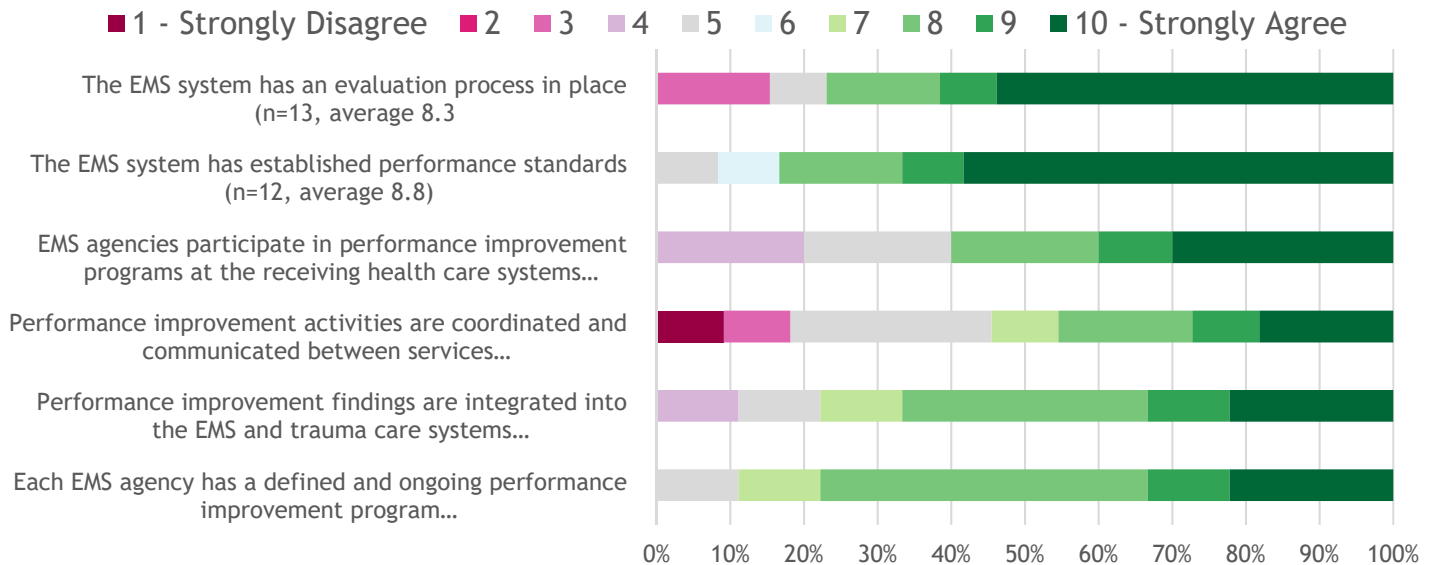
Board Certified General Surgeon with a lengthy career providing trauma care in rural and urban hospitals. He served as Trauma Services Director at Poudre Valley Hospital and Colorado Plains Medical Center. Dr. Collins is a pillar of EMS and trauma care in Northern Colorado, especially in the rural Northeastern communities. Dr. Collins is not financially reimbursed for his medical direction. The expectations of medical direction with limited reimbursement are somewhat nebulous.

Recommendations

- ✿ It is recommended that medical directors who are new to EMS or who have never attended formal EMS oversight education attend some type of EMS medical oversight course. The Foundation of Medical Oversight (F.O.M.O) is one example.
- ✿ The medical director should stay up to date with peer reviewed literature as it pertains to EMS.
- ✿ Medical directors should be financially compensated a reasonable amount for oversight of an EMS agency and monthly allotted hours should be established.
- ✿ EMS medical directors should carry medical malpractice coverage that is specific for EMS.
- ✿ The medical director should consider attending Northeast Physician Advisory Board meetings.

Evaluation

Survey Responses for Evaluation



Colorado EMS rules 6 CCR 1015-3 outline the minimum requirements that Continuous Quality Improvement (CQI) program should be established. Each EMS agency and medical director needs to set their own process and priorities with the expectation that it should include: appropriate protocols and standing orders and provision for medical care audits, observation, critiques, continuing medical education and direct supervisory communications. In addition, the regulations specify that the medical director shall provide oversight of the CQI program and routinely review the CQI program.

The CQI program at Morgan County Ambulance Service was identified as an area that deserves reorganization and a vision. Currently, the ambulance service reviews 100% of its medical calls (approximately 3,000 annually). They also perform mandatory reviews of all calls that involved endotracheal intubation, M1 holds, protocol deviations and trauma patient scene times greater than 20 minutes. However, only two EMS staff members are qualified and able to perform these reviews. While on shift, they review approximately 30 calls in addition to their clinical, leadership and other administrative duties.

Some important quality metrics are tracked by St. Elizabeth hospital committees rather than Morgan County Ambulance Service. These are:

- Chest Pain/Cardiac Alert
- Trauma Activation
- EKG performed for chest pain

Blood glucose for suspected stroke patients, an important metric, is not being tracked.

There is sentiment among stakeholders interviewed that this process is ineffective, lacks direction and does not identify most critical metrics that apply to prehospital care. The committee discussed simple first-steps that can be deployed to reorganize the CQI process. However, a lack of personnel who can reliably and regularly participate in this process remains a tremendous limitation.

Historically, Dr. Collins engaged in CQI only when there were protocol deviations. As of February 2023, Dr. Collins assigned himself a more active role in the CQI process and attends all CQI meetings. There is motivation among agency leadership and medical direction to design a CQI program that is both useful and usable. Dr. Collins attended a Foundation of Medical Oversight webinar hosted by CDPHE earlier this year with an aim to revise and update their CQI process. The first CQI meeting that included Dr. Collins occurred on the day of this consultative visit.

Despite the CQI program warranting reorganization, the ambulance maintains an adequate process for identifying protocol deviations by applying Just Culture principles. The agency provides remedial training and a formal system to track these deviations and demonstrate loop closure.

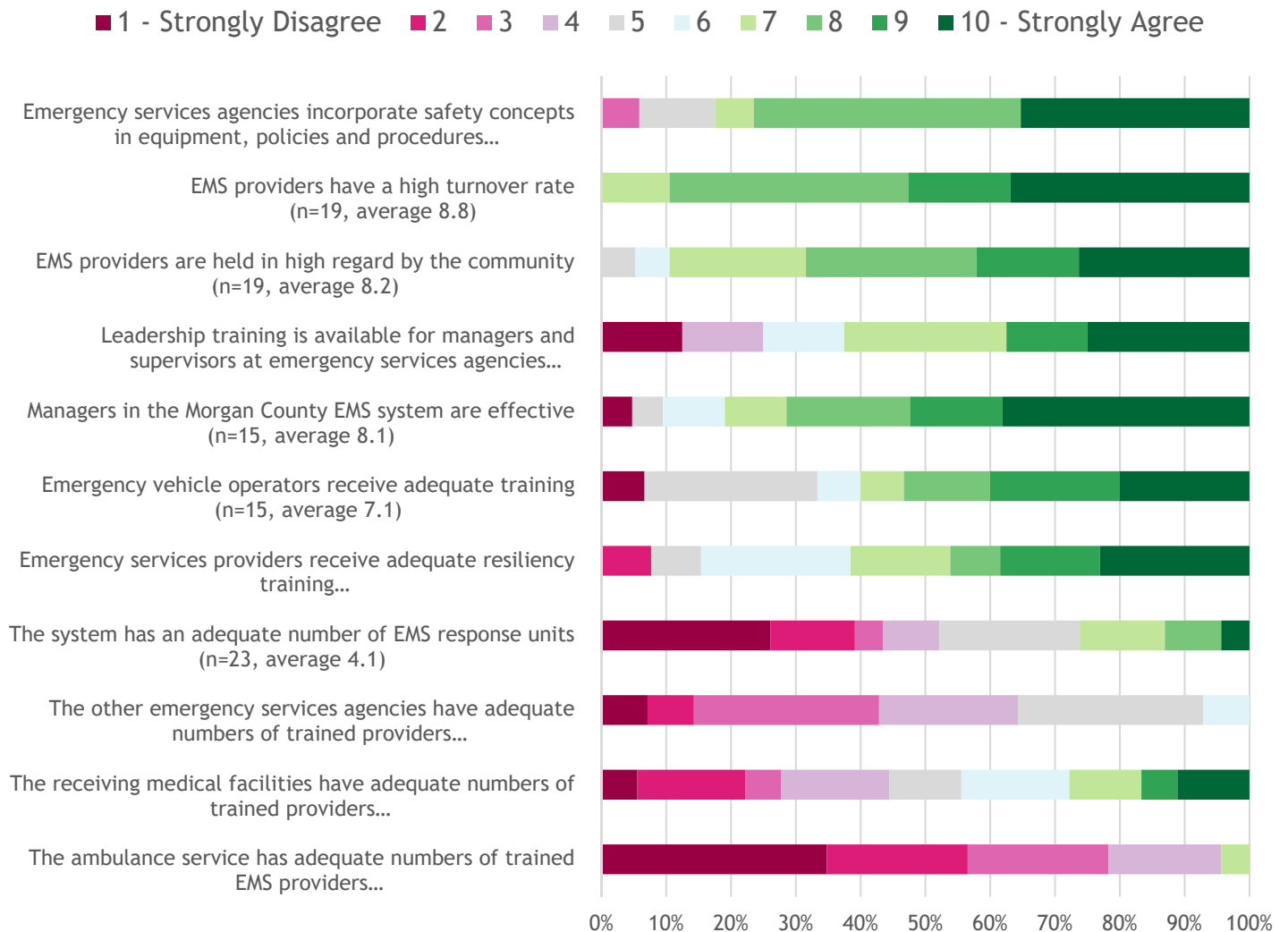
Currently, CQI findings and results are not being tracked in a manner that allows data extraction.

Recommendations

- * Consider instituting a quality management program to conduct quality management assessment as outlined by C.R.S.25-3.5-901, et seq. that provides the minimum structure and provisions.
- * Consider restructuring the CQI process. The goal a quality management or improvement program is to identify system-level issues that pose a threat to patient care or can be improved. If the only outcome the program is individual chart review it should be reevaluated.
- * Staff shortages pose a serious compromise to the success of the review team and there should be ongoing focus on recruitment and retention.
- * There should be close medical director oversight of the quality management or improvement process. Hospital records for some patients should be cross referenced for outcome determination, EMS diagnostic accuracy and treatment appropriateness.
- * Agency leadership should attend hospital committee meetings where EMS data is compiled and discussed. Use that data to identify system trends. This includes care of chest pain patients, trauma activations and EKG performance.
- * Review and of 100% of records is ineffective and demands significant time and commitment of resources. Create a few categories that the review team wishes to analyze. Design an electronic format to track these metrics in such a way that data can be extracted and analyzed on a quarterly, bi-annual or annual basis. Once a reliable process has been established, the agency can add more categories and begin developing improvement projects based on data.
- * Encourage self-reporting as part of the CQI/CQM process and Just Culture. Establish a process that promotes a “safe space” for self-reporting.
- * Agency leaders and medical directors should consider attending a quality review seminar or practicum. Examples are the NAEMSP or similar two-day Quality and Safety Course or the yearlong Quality Improvement and Safety Course through National Association of EMS Physicians.
- * Agency leadership should engage with staff from CDPHE regarding training to improve data extraction form electronic patient care records using NEMSIS data.

Human Resources

Survey Responses for Human Resources



A dedicated crew of full and part-time providers staff the Morgan County Ambulance Service. The Morgan County Commissioners, hospital staff, and public safety partners all hold them in high regard for their commitment to serve and the level of care they provide. In numerous interviews with community stakeholders, it was reported that the staff appeared tired and needed more downtime during their shifts.

Two advanced life support ambulances, stationed in Fort Morgan and Brush, are staffed 24/7/365 with paramedics and emergency medical technicians working a 72/144-hour shift schedule. These two ambulances do not appear sufficient to answer the system's average amount of 911 requests for service and interfacility transports because off-duty personnel are routinely called in to staff additional ambulances when multiple incidents occur take place. It was also widely reported that the system struggled to keep up with interfacility transport demands out of the area due to limited resources.

The Director of Morgan County Ambulance is a paramedic responsible for administrative and operations oversight of the agency and also works shift rotations as necessary. The current ambulance director is viewed as a competent leader and a tremendous asset to the organization. While some administrative functions such as quality improvement and training are delegated to other staff, there needs to be necessary time to monitor practices such

as standard operating procedure development, billing oversight, and strategic planning to be accomplished. There is also the potential for the existing director to suffer from emotional and physical exhaustion (i.e., “burnout”) due to the stresses of this extreme workload.

While there is uncertainty regarding the department’s future funding and stability, the overall morale of employees is high. The staff has pride in the organization and the services they provide. The 72/120 hour-work schedule is held in high regard by full-time staff because of many commute to work from outside the county. Additionally, most feel that they are compensated fairly. Employee facilities do not meet the agency’s needs and need updating to include expansion for the required staff that will enhance service delivery.

Although the staff orientation policy for new paramedics and EMTs seems to be well established, the agency is often put in a position of being a “stepping stone” once an agency orientation is complete. The constant turnover has created areas of concern within the interface with Morgan County Ambulance staff, other area responders, and hospital staff at local hospitals.

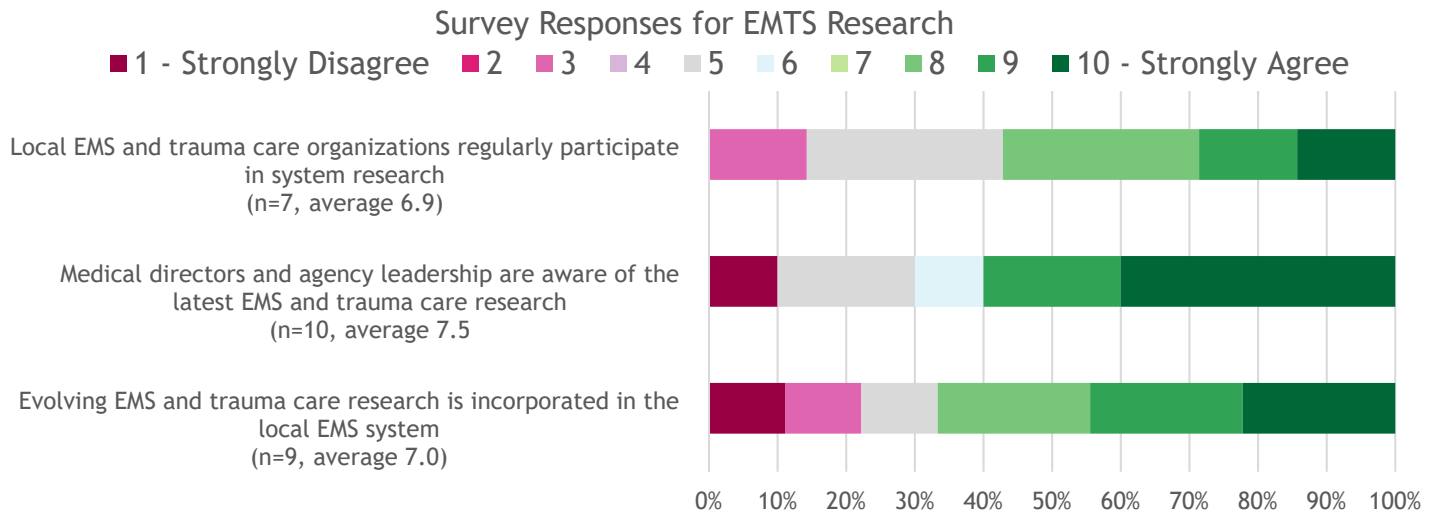
Rural agencies throughout the state and across the country find recruitment a challenge for various reasons. One concern mentioned during the interviews is the future staffing and recruiting once full-time employees reach the age of seeking jobs with fewer physical requirements.

Morgan County Ambulance Service has a cadet program to help recruit high school students to consider a future career in EMS. These type of Grow-Your-Own EMS provider programs are highly successful on multiple levels. These programs illustrate how vital the EMS system is to the community, develop more relationships within the community and demonstrate the successes of the EMS system.

Recommendations

- ✱ Continue to promote and educate the community on the staffing and funding challenges that Morgan County Ambulance Service faces; doing so will allow an informed decision to create a more solid funding option for EMS services. Limitations of funds creates limited access to personnel.
- ✱ The hour limitation and time on task are not sustainable for the current staff. Consider options to increase resources to fill staffing of leadership positions.
- ✱ Consider funding an education coordinator for the agency to support the continuing education requirements of the EMS providers and education outreach with other local first response agencies.
- ✱ Consider establishing a partnership and incentive programs that create access to a Paramedic education program in the area.
- ✱ Consider developing a Concurrent Enrollment program with the school district and Morgan County Community College as an enhancement to the existing cadet grow-your-own program. Students will gain exposure to EMS may help fill the pool for future EMS in the community for Morgan County Ambulance and the fire departments within the County. This type of program takes dedication, planning, and coordination between Morgan County Ambulance, the local Emergency Services Council, EMS medical directors, Morgan Community College, and the school district to develop a training program for oversight. This instruction would help prepare students for a career in healthcare or fire service.

EMTS Research



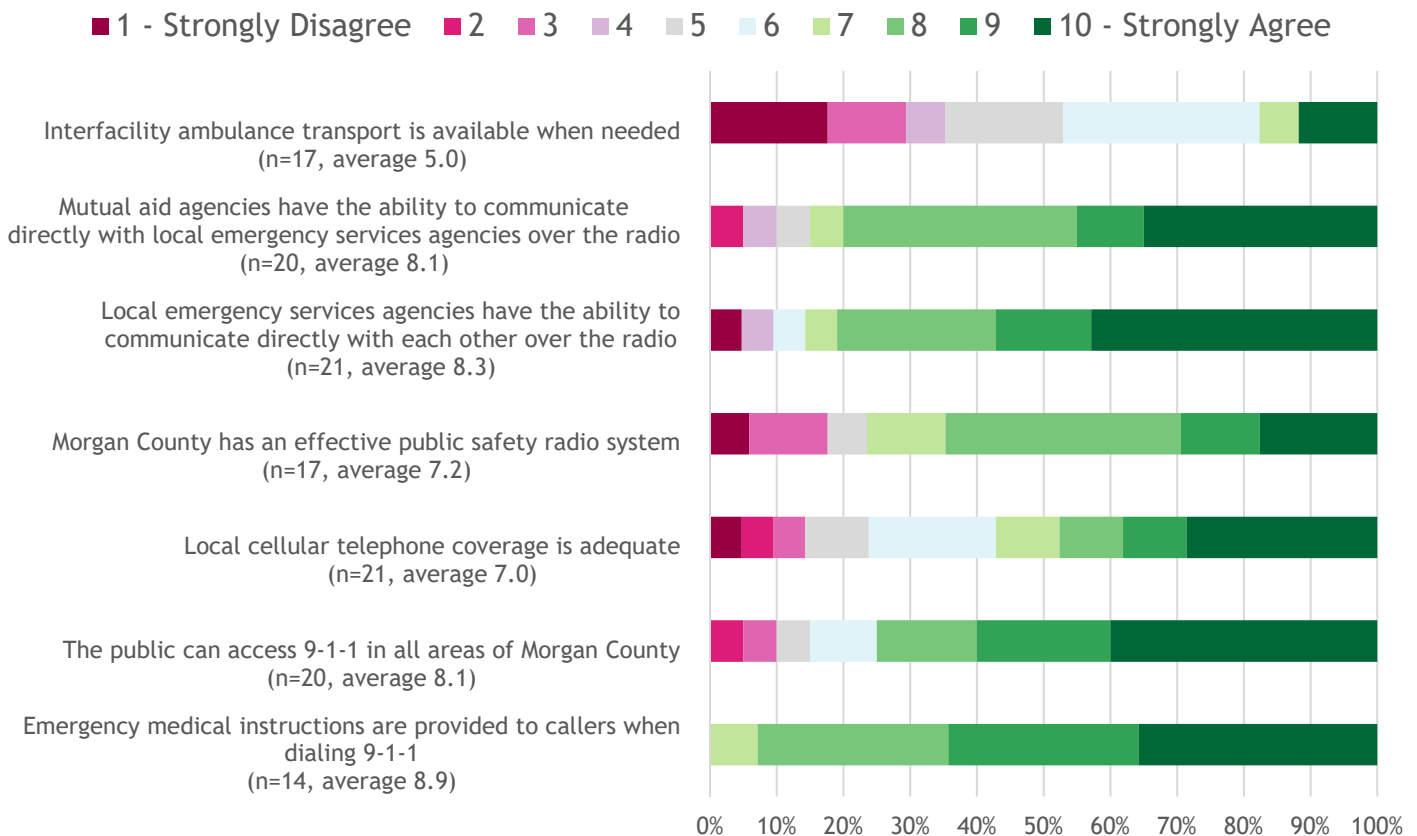
Research is a process of systematic investigation designed to discover factual information and contribute to increased knowledge or understanding. No formal research is currently being conducted within the Morgan County EMS system. There is potential for conducting scientifically rigorous research in the future considering all EMS transport agencies, both air and ground, are submitting data from patient care reports to the state database. Submitting standard data to the Cardiac Arrest Registry to Enhance Survival (CARES) also enhances opportunities for meaningful research to improve care of patients experiencing out-of-hospital cardiac arrest.

Recommendations

- * Maintain compliance with state data reporting requirements and consider using a multidisciplinary approach to enhance understanding of the processes that affect patient outcomes and to develop systemic improvements and decrease mortality and morbidity.
- * Consider options to collaborate with RETAC or hospital research initiatives where resources are available.
- * Continue to engage with medical direction and hospital system resources to keep up to date with current and changing practices in care.

Public Access and Communications System

Survey Responses for Public Access and Communications Systems



Public Access

Morgan County has the universal 911 emergency access number system available in all areas for the county. The system is answered by the Morgan County Sheriff's Office Dispatch. This system is the Enhanced 911 version and is accessible to both landline and cellular phones. This also includes text to 911, which is available in most areas of Colorado where the cellular activity is the largest activity on the system. The current 911 system is a Viper and is very reliable and common in Colorado. This system in conjunction with the Computer-aided dispatch system helps the 911 call system.

The county uses the Code Red system for the emergency notification of potential or impending hazards, mobile telephones must opt-in as is standard with all public notification systems.

Communications

The dispatch center has interoperable communications among local public safety agencies and mutual aid partners in adjacent counties appears to work well.

Morgan County EMS and the sheriff's dispatch are currently working through the HIPAA issues involving the amount of information that is available to all responders on a mobile data terminal. The sheriff's office is concerned that they are not receiving crucial information for the safety of the officers. The communications director is working through this issue and should have a resolution soon.

The Emergency Medical Dispatch system is currently being used on EMS calls. Questions asked by the dispatcher and pre-arrival instructions are tailored to the medical or trauma event that is occurring.

The Communications Manager is very well connected to the issues of the 911 systems state wide and has the Master Street Guide under control for the county.

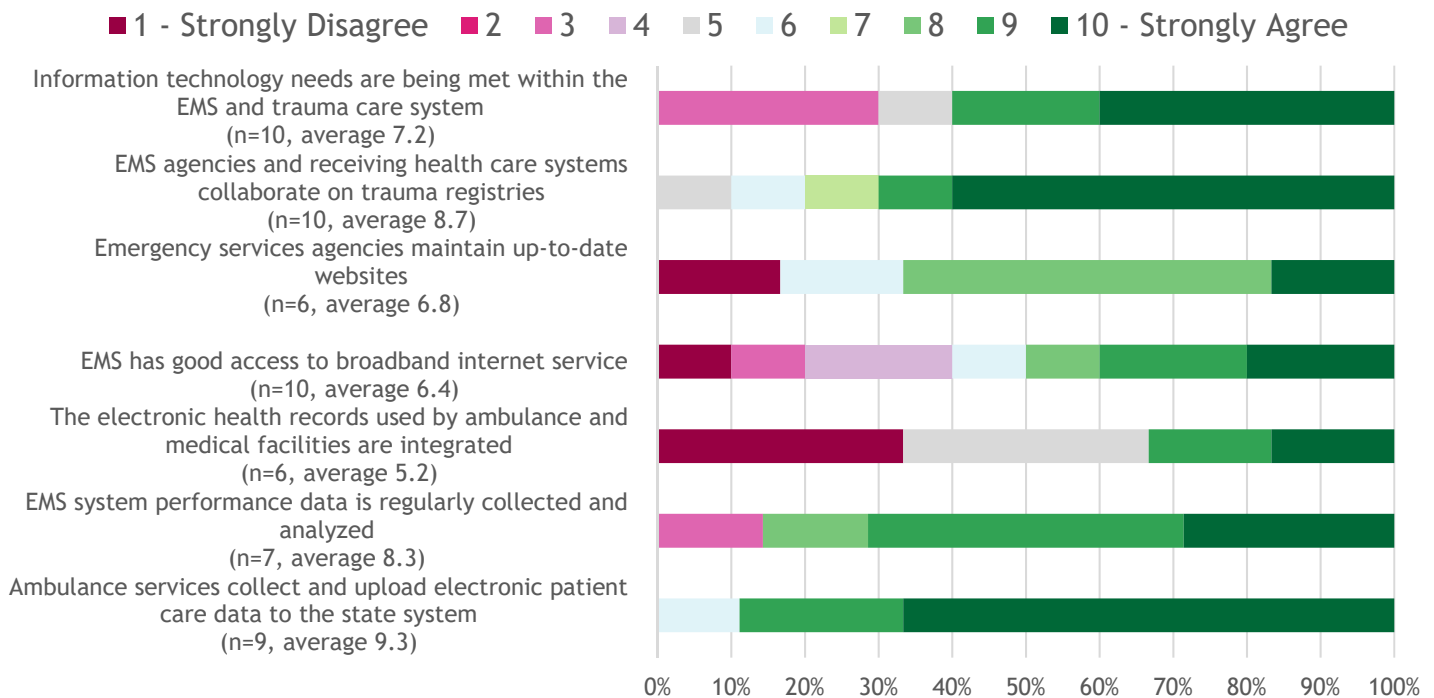
The communications center seems to be under control and we did not hear of any issues that would cause the center to underperform.

Recommendations

- The only issue that is unresolved is the HIPAA issue of how much information the responders other than the EMS personnel can receive. The communications manager is working through this with the sheriff's office and EMS for a resolution to the concerns.

Information Systems

Survey Responses for Information Systems



The Morgan County Ambulance Service uses modern patient care reporting and data collection technology. The County has variable access to reliable broadband internet, with connectivity being more robust in the more populous areas and sporadic in the more rural areas. Morgan County Ambulance uses ImageTrend electronic patient care records (ePCR) for patient transportation documentation and, through this platform, ensures that the NEMSIS data submissions to the Colorado Department of Public Health and Environment are completed. The staff at Morgan County Ambulance Service continue to learn and attempt to use all of the functionality of the state provided ImageTrend access. As EMS progresses into a more technological and evidence-based medical practice, it is imperative to review all available data to look for various trends for quality improvement measures and as a possible tool to develop data that demonstrates the value EMS has to the community.

Patient care reports are typically provided to East Morgan County Hospital and Centura St. Elizabeth Hospital upon request for trauma patients only as part of the trauma review process. Morgan County Ambulance does not send over ePCR forms outside of the requested trauma patients for quality improvement or patient records. However, hospitals in Colorado have access to ePCR records submitted to CDPHE in the hospital hub system, access is available to those facilities on request to the department.

Having Mobile Data Terminals in emergency vehicles allow crews to receive valuable call information like agency unit status, address, call report number, pertinent medical information, previous 911 history requests on the residence and potential hazards, call time information (dispatch, responding, on-scene, transport, at destination) and the ability to message crews back and forth without having to relay private critical information over the airwaves. In addition, MDTs can include mapping software for GPS capabilities; this is useful for difficult-to-locate persons on cellular devices who may not know their location but have a link to longitude and latitude position location. In MCI situations or when a field supervisor is first on-scene if the vehicles are equipped with an Automatic Vehicle Locate system, the supervisor can track where the emergency vehicles are located and estimate the arrival time of the responding crews.

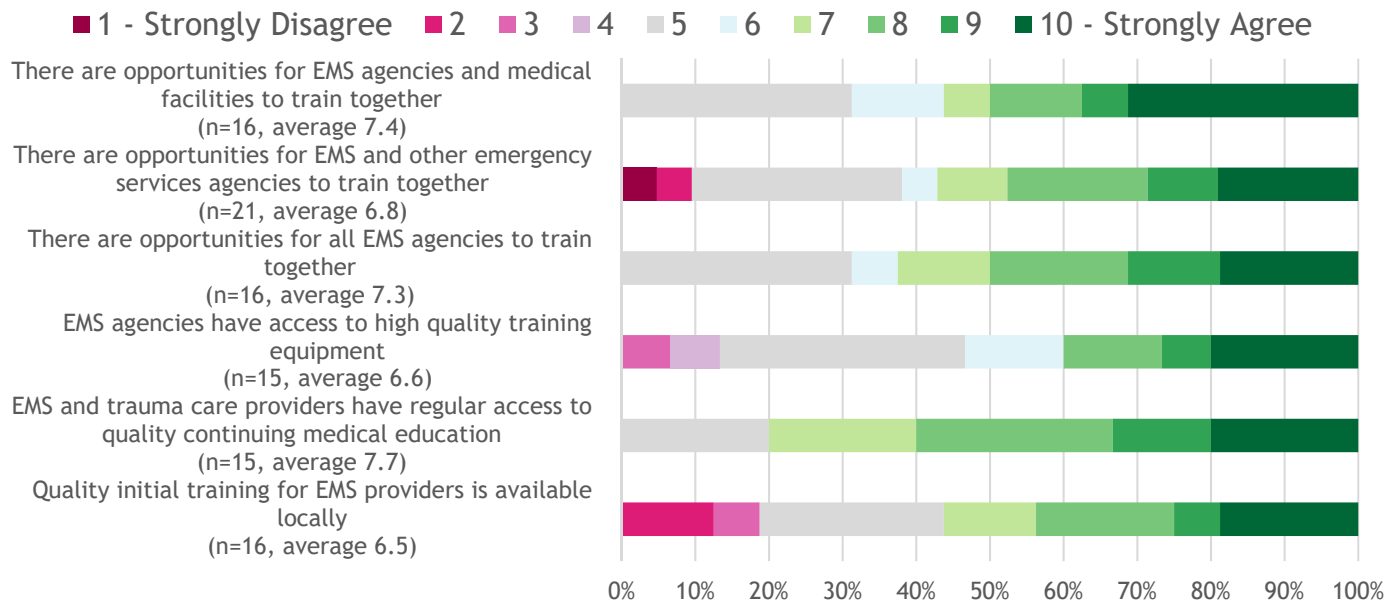
Morgan County Ambulance has a single webpage on the County's website. The webpage contains basic information such as the overview of the services, the department's history, the services missions, and an overview of the ambulance services staff.

Recommendations

- ✿ Consider updates the Morgan County Ambulance Service website. In today's technological climate, website communication is valuable in marketing a business. Although Morgan County Ambulance is a public service, marketing the department would be beneficial. Providing a more robust EMS website where job postings are listed, a calendar of EMS events, photos of crews and agency resources, along with frequently asked questions for billing, accessing 911, signing up for CodeRED, and ordering a standby event ambulance, can help market the EMS service better to gain community support and aid in recruitment efforts. Additionally, the website can be used for community polls and surveys of the service and help with preventative education for the community.
- ✿ Consider utilization of MDTs for each response vehicle. It is a valuable tool for address verification, pertinent medical information, previous location history and hazards, communication between responding crews, reference call times for report writing, and patient contact and mapping/GPS location tools.
- ✿ Consider additional training about the ImageTrend system and consider resources that integrate Computer Aided Dispatch and other software modules available to help streamline use of the ImageTrend Elite ePCR system.

Education Systems

Survey Responses for Education Systems



EMS continues to evolve as a component of the healthcare system as the scope of practice continues to expand. This has increased the demands on initial training and continuing education to develop and maintain ongoing competency. Limited financial resources, travel outside the community and lack of qualified staff to backfill coverage create significant obstacles for EMS providers in rural areas to acquire and maintain the expertise to serve their community.

Morgan Community College in Ft. Morgan offers several allied health related programs including EMS, nursing, and law enforcement POST certification. The Nursing and Post certification courses have pathways to for students to complete an associate's degree in their related fields; however, EMS courses only offer certificate level training. The school is perusing Care Forward Funding approved by Senate Bill 22-226 to provide zero-cost, short-term funding to help meet the demand on entry level healthcare providers in certificate programs. Morgan Community College is recognized to provide initial education for EMRs, EMTs and Advanced-EMTs. Interview of the faculty identified that the program has not offered and EMS initial certification class for any level in several years due to low enrolment census in the programs. The EMS education program recently hired a new program director for EMS. Due to limited interest in the community they hired the Morgan County Ambulance Service director and several staff form the ambulance service to staff the program.

The administration is very supportive of revitalizing the EMS education program. The variety of allied health programs at the college has placed them in a strong position with the local hospital systems to support clinical and didactic education in all of the healthcare offerings at the college.

Continuing education opportunities are available through Morgan Community College and Morgan County Ambulance. Due to shared faculty the education programs have access to resources in both systems to increase continuing education opportunities.

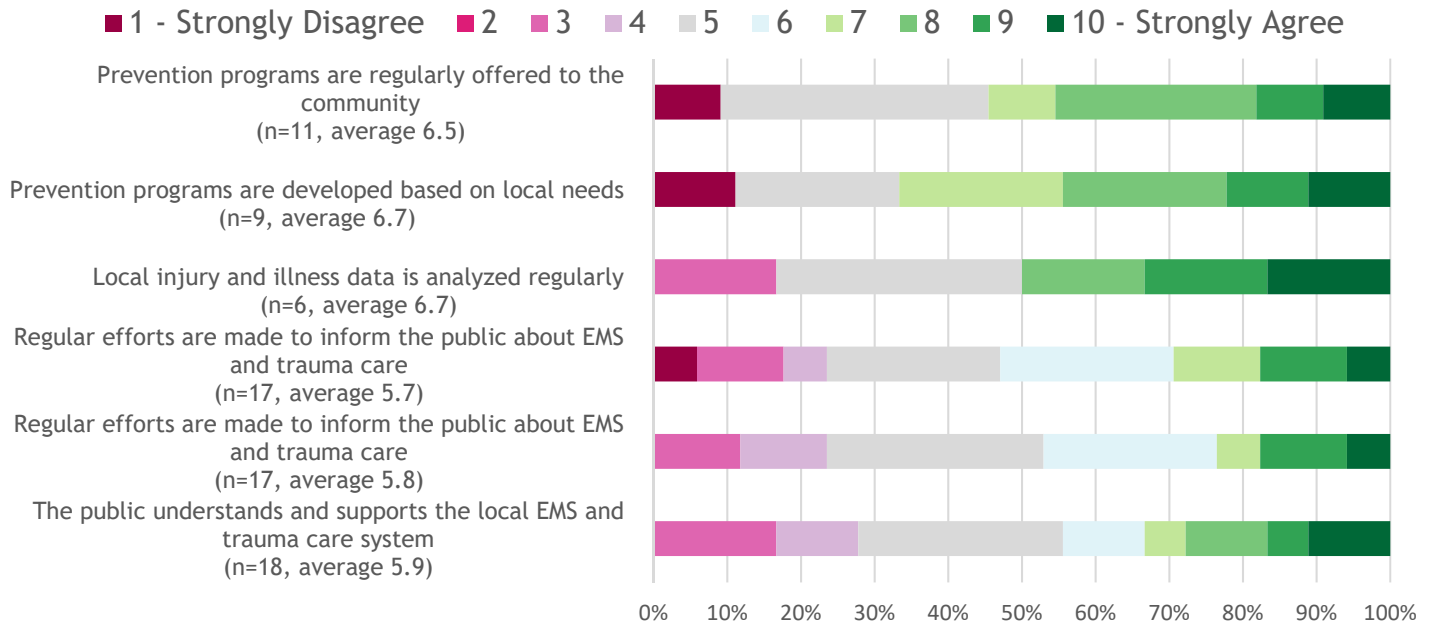
Recommendations

- Consider options to support recruitment of EMS instructors and guest instructors to support the program.
- Continue to advertise the Colorado Care Forward program to assist funding for initial training and local recruitment from the community.

- Engage in mentoring and professional development opportunities for EMS staff in instructor and education program development through Colorado EMS instructor series, EMS education conference opportunities and trainings and resources from National Association of EMS Educators (NAEMSE)
- Consider grant opportunities for paramedic and advanced training through the CREATE EMS Education grants program.

Public Education and Prevention

Survey Responses for Public Education and Prevention



Public Education

In most communities the general public has a very limited understanding of EMS, yet many EMS providers anticipate that the public to knows when to use the EMS system, how to provide basic care before EMS arrival, and why EMS programs may come to them for funding. Progressive EMS programs not only provide timely, appropriate, and high-quality care. They also enable their customers to be a stronger part of the system through innovative public education initiatives. Public education often overlaps with prevention activities, providing EMS with additional opportunities to be a more active community partner.

Morgan County EMS staff indicated there is a significant population who utilizes the ambulance service for inappropriate requests. Every patient needs a thorough evaluation of their condition but the ambulance staff can also provide education on these responses to help mitigate this issue. Unfortunately, inappropriate requests for ambulance service are not unique to Morgan County and will likely never be completely eliminated.

Morgan County EMS provides two to three classes quarterly to the public for CPR and general first aid information. They also participate at as many public gatherings as possible with a booth providing blood pressure and blood sugar checks. During all of these events they educate the public on when to call 911. Given the staffing recruiting and retention difficulties the agency has this is a very good example of how hard they are trying to keep the public educated.

Prevention

At the time of the consultative visit, no system-wide, integrated approaches to prevention programs are being conducted in Morgan County. Since the pandemic, the hospitals and EMS agency have been struggling with organizing and providing education to the community. The struggle can be related to staffing restraints at both the hospitals and the EMS system. There also seems to be a growing perception among many injury prevention programs across the state, that the older population is not wanting to come back out in the community for educational programs. St. Elizabeth Hospital has been able to provide Think First for Teenagers at the high schools, Matter of Balance for the small groups of the older population, and Stop the Bleed at various events in the community.

East Morgan County Hospital and St Elizabeth Hospital's trauma programs are state verified Level IV Trauma Centers and enter trauma registry data to the Colorado Department of Public Health and Environment on a monthly basis.

Currently the data is not being used to its fullest potential to direct community-wide injury prevention programs in conjunction with the EMS system.

St. Elizabeth Hospital is a nationally recognized Chest Pain Center does offer a number of cardiac educational opportunities throughout the county.

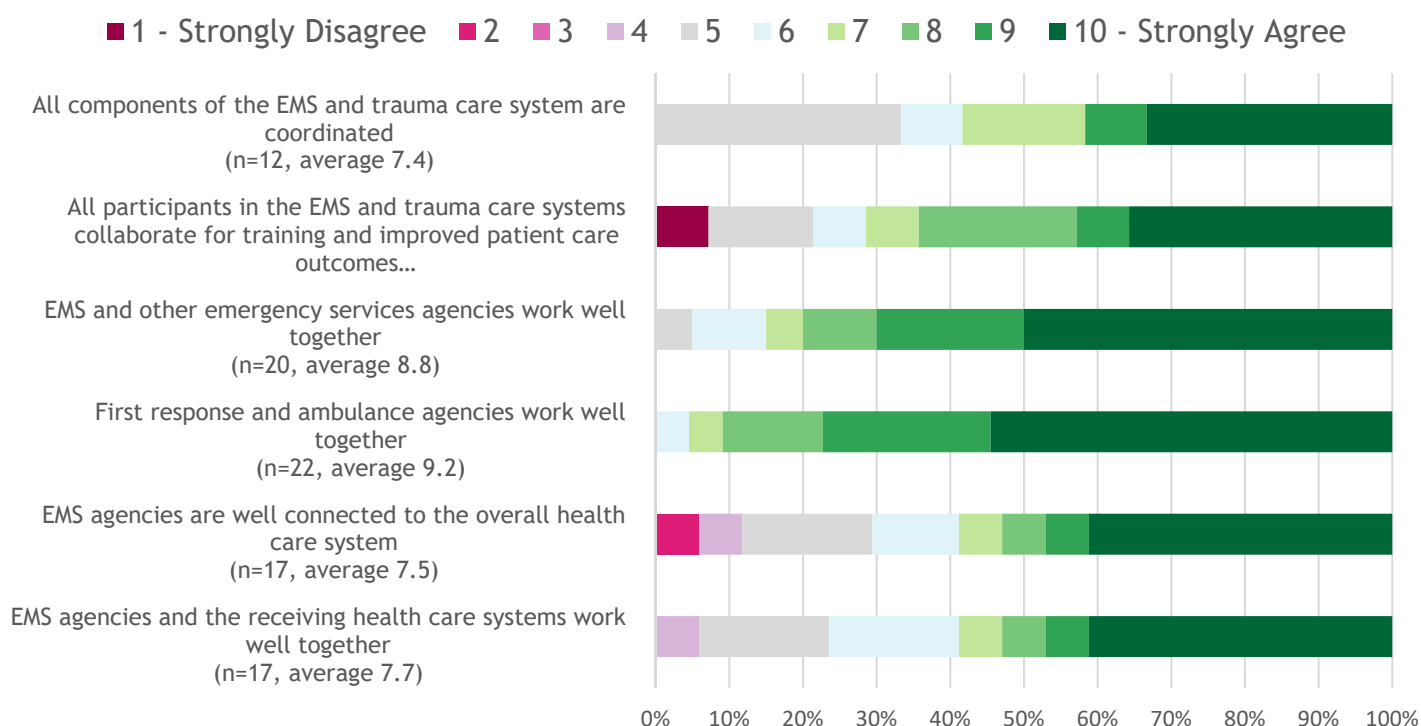
It is impressive that there are forty-five Automatic External Defibrillators (AEDs) located in local businesses throughout Morgan County. Morgan County ambulance inspects these AEDs twice year, checking the batteries, pads, and location to make sure that it is easily accessible. Given the resources available, there is significant opportunity to develop some well-coordinated and effective community-wide injury prevention programs.

Recommendations

- ✱ Continue working cooperatively with all Morgan County agencies to raise the level of awareness about all emergency services. This program could combine law enforcement, public safety communications, fire service and EMS in one coordinated effort. Topics could include when to call 911, See Something-Say Something, fire safety, fire prevention.
- ✱ To help mitigate inappropriate use of the EMS system, Morgan County EMS should work with community stakeholders who serve the targeted populations with education regarding appropriate use of the system. The education should include the effects on staffing, costs and readiness for other high-acuity calls as well as other transportation options available to the community.
- ✱ Important education for the public happens during each 911 call. Continued positive attitude and caring behaviors demonstrated by the staff providing services will be remembered by the patient and their family much longer than any flyer passed out at a public event. High quality emergency care will instill public trust and help to enhance the service in the eyes of the entire community.
- ✱ East Morgan County Hospital and St. Elizabeth Hospital should utilize their trauma registry data to drive their community outreach projects. Work together as a team, as your data is probably similar, to conduct prevention programs in both Ft Morgan and Brush.
- ✱ Morgan County Ambulance Service, when able, should make a commitment to engage in community-wide, multidisciplinary illness and injury prevention activities. Prevention should be recognized as not only a method to improve the health and safety of the community, but as an avenue to connect with the community in a mutually beneficial manner.
- ✱ Engage the RETAC, fire departments, public health, schools, and other stakeholders to plan, conduct and/or participate in community events.
- ✱ Continue to promote AEDs in the community. This is important to promote with the vastness of Morgan County and the number of EMS units available each day. AEDs can be life-saving if available and utilized early in a cardiac event.

Integration of Health Services

Survey Responses for Integration of Health Services



An integrated community health system is essential for providing comprehensive care to individuals and populations. It involves coordinating and collaborating between different healthcare providers and community organizations to improve health outcomes and address health needs of the citizens. A well-developed system includes emergency responders, primary care providers, and specialty care providers, along with efficient communication channels and shared electronic health records. These structures are essential for providing comprehensive care and improving health outcomes in the community.

Effective communication is crucial for an integrated community health system to work properly. Healthcare providers and community organizations must have a way to communicate and coordinate with each other, which may involve regular meetings, shared electronic health records, or other means of exchanging information. Efficient communication is also necessary between providers at different levels of care to ensure that patients receive appropriate and timely referrals to specialty care when needed. Too often care systems are siloed and despite all playing a role in a patient's care, they infrequently coordinate efforts and create opportunities to evaluate quality across the continuum of care.

Creating efficient communications structures can be as simple as standing meetings, participation in collaborative, cross disciplinary conversations, exercising plans, education, medical direction, and event / incident planning. The general goal is to build synergistic and accretive systems that's sum value is greater than the value of its individual components. Full system integration significantly increases the capability of the healthcare system, improving care and patient outcomes.

Morgan County's emergency healthcare stakeholders have opportunities related to further integrating the community's healthcare system. The two healthcare facilities are largely in a competitive stance, as opposed to coordinating services provided to develop diverse and efficient offerings. The lack of proper investment in the EMS system significantly inhibits their bandwidth to create and participate in collaborative structures.

The EMS system is currently in crisis due to lack of funding, facing challenges from recruitment and retention, to fielding enough units to properly address the call volume and interfacility transfer requirements of the community.

If invested in, the EMS system could act as an integrative conduit for all aspects of the emergency medical and trauma system. This is likely, both through their collaboration and communication with all systems, but also by developing mobile integrated health as a service line. MIH would add in home, longitudinal, care to the services available to Morgan County residents. Information would move from primary care through MIH in a bi-directional manner, increasing the quality care across the system and reducing the incidence of traditional healthcare emergencies.

EMS medical direction is another opportunity to integrate systems. A board-certified emergency medicine physician, who has completed an EMS fellowship, provides incredible value when coordinating pre-hospital care and hospital participation across the EMTS system. Ideally this physician is also a member of one of the facility's staff in part and provides direct and indirect guidance and oversight to EMS professionals as well.

There are regional opportunities to further integrate local care and better collaborate across the wider swath of Northeastern Colorado. Participating in The Northeast Region Healthcare Coalition (NERHCC) is one of these opportunities for all healthcare stakeholders in Morgan County, including emergency management, EMS, fire, facilities, and long-term care. Keeping with the theme of communication and collaboration, structures like the NERHCC provide excellent opportunities to build relationships and understand adjacent systems, their needs and capability, prior to an incident of scale.

Recommendations

- Consider a shared or collaborated group providing medical direction and oversight for all first response agencies in the county.
- Create one set of county-wide pre-hospital EMS protocols encompassing ALS and BLS care.
- Create monthly system wide meetings with involvement from all emergent healthcare stakeholders where system design and quality are discussed. An M&M (mortality and morbidity) style meeting should be considered with a quarterly cadence.
- Stakeholders should participate in regional structures like the NERHCC and RETAC.
- Collect and use system data to drive decision making and report system function and health to the public.
- In collaboration with facilities, develop an interfacility transportation plan that includes logistics, crew safety, scope of care, and alternative care / transportation options.

Appendix A: Morgan County EMS Statistics

These statistics are based upon what was reported to the state for NEMSIS reporting for the period December 1, 2021 to November 31, 2022. This date range was used so all reports were consistent using the NEMSIS 3.4 data standard. Morgan County Ambulance transitioned to NEMSIS 3.5 data in December 2022.

Response Requests

Response Type Of Service Requested (eResponse.05)	# of Records	% of Total
911 Response (Scene)	2,833	79.92%
Interfacility Transport	602	16.98%
Standby	79	2.23%
Public Assistance/Other Not Listed	13	0.37%
Medical Transport	9	0.25%
Mutual Aid / Intercept	9	0.26%
Total	3,545	100%

Request for Service Time Frames

Time Period	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total	%
00:00 - 02:59	44	25	20	29	34	19	46	217	6.1%
03:00 - 05:59	28	36	30	28	26	30	36	214	6.0%
06:00 - 08:59	52	60	66	51	71	45	41	386	10.9%
09:00 - 11:59	62	87	84	91	82	72	70	548	15.5%
12:00 - 14:59	73	87	88	82	84	92	69	575	16.2%
15:00 - 17:59	68	98	109	86	77	97	88	623	17.6%
18:00 - 20:59	74	84	77	93	84	86	95	593	16.7%
21:00 - 23:59	64	44	52	61	49	63	56	389	11.0%
Total	465	521	526	521	507	504	501	3,545	100%

Response Mode

Response Mode To Scene (eResponse.23)	# of Records	% of Total
Emergent (Immediate Response)	3,270	92.2%
Non-Emergent	252	7.1%
Emergent Downgraded to Non-Emergent	17	0.5%
Non-Emergent Upgraded to Emergent	6	0.2%
Emergent (Immediate Response)	3,270	92.2%
Total	3,545	100.0%

Transport Mode

Transport Mode From Scene (eDisposition.17)	# of Records	% of Total
Non-Emergent	2,059	58.08%
Not Recorded/Blank	1,302	36.73%
Emergent (Immediate Response)	172	4.85%
Not Applicable	8	0.23%
Non-Emergent Upgraded to Emergent	4	0.11%
Total	3,545	100.0%

Average Run Mileage

To Scene		
Miles	# of Records	% of Total
Not Recorded	2,878	81.18%
0 to < 5	440	12.41%
5 to < 10	185	5.22%
10 to < 15	26	0.73%
15 to < 20	4	0.11%
> 20	12	0.34%

Total	3,545	100.0%
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Average Run Mileage

To Destination		
Miles	# of Records	% of Total
Not Recorded	1,291	36.42%
0 to < 5	1,248	35.20%
5 to < 10	192	5.42%
10 to < 15	83	2.34%
15 to < 20	111	3.13%
> 20	620	17.49%
Total	3,545	100.0%

Disposition

Incident Patient Disposition (eDisposition.12)	# of Reports	%
Blank/Missing	-*	-*
Assist, Agency	8	0.2%
Assist, Public	22	0.6%
Canceled (Prior to Arrival At Scene)	175	4.9%
Canceled on Scene (No Patient Contact)	60	1.7%
Canceled on Scene (No Patient Found)	22	0.6%
Patient Dead at Scene-No Resuscitation Attempted (Without Transport)	44	1.2%
Patient Dead at Scene-Resuscitation Attempted (With Transport)	4	0.1%
Patient Dead at Scene-Resuscitation Attempted (Without Transport)	19	0.5%
Patient Evaluated, No Treatment/Transport Required	169	4.8%
Patient Refused Evaluation/Care (With Transport)	-*	-*
Patient Refused Evaluation/Care (Without Transport)	643	18.1%
Patient Treated, Released (AMA)	17	0.5%
Patient Treated, Released (per protocol)	46	1.3%
Patient Treated, Transferred Care to Another EMS Unit	17	0.5%
Patient Treated, Transported by Law Enforcement	-*	-*
Patient Treated, Transported by Private Vehicle	7	0.2%
Patient Treated, Transported by this EMS Unit	2,207	62.2%
Standby-No Services or Support Provided	62	1.7%
Standby-Public Safety, Fire, or EMS Operational Support Provided	15	0.4%
Transport Non-Patient, Organs, etc.	-*	-*
Total	3,548	100%

* records with counts <4 suppressed

Run Times

Enroute (Unit Notified by Dispatch to Enroute)		
Minutes	# of Reports	% of Total
0 to <1	1,925	54.30%
1 to <2	496	13.99%
2 to <3	197	5.56%
3 to <4	138	3.89%
4 to 5	87	2.45%
> 5	636	17.94%
Unknown	66	1.86%
Total	3,545	100.00%

Response (En Route to Unit Arrived on Scene)		
Minutes	# of Reports	% of Total
0 to <5	1,331	37.55%
5 to <10	1,206	34.02%
10 to 15	561	15.83%
> 15	222	6.26%
Unknown	225	6.35%

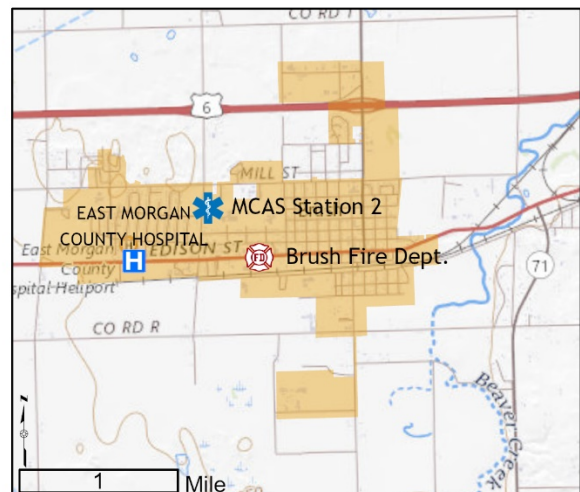
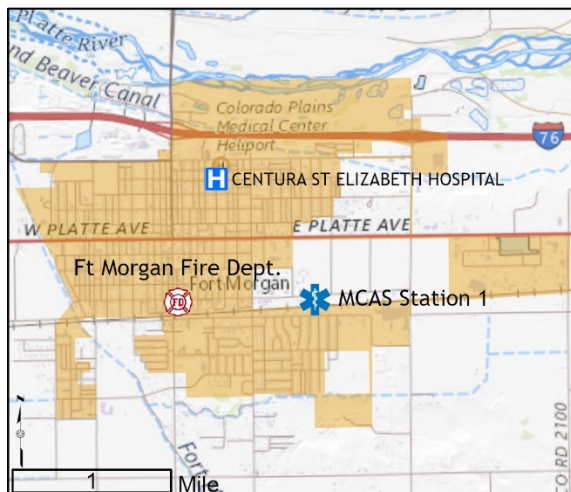
Transport (Unit Left Scene to Patient Arrived at Destination)		
Minutes	# of Reports	% of Total
Total	3,545	100.00%
0 to 5	645	18.79%
5 to <10	542	15.29%
10 to 15	210	5.92%
> 15	787	22.20%
Unknown	1,340	37.80%
Total	3,545	100.00%



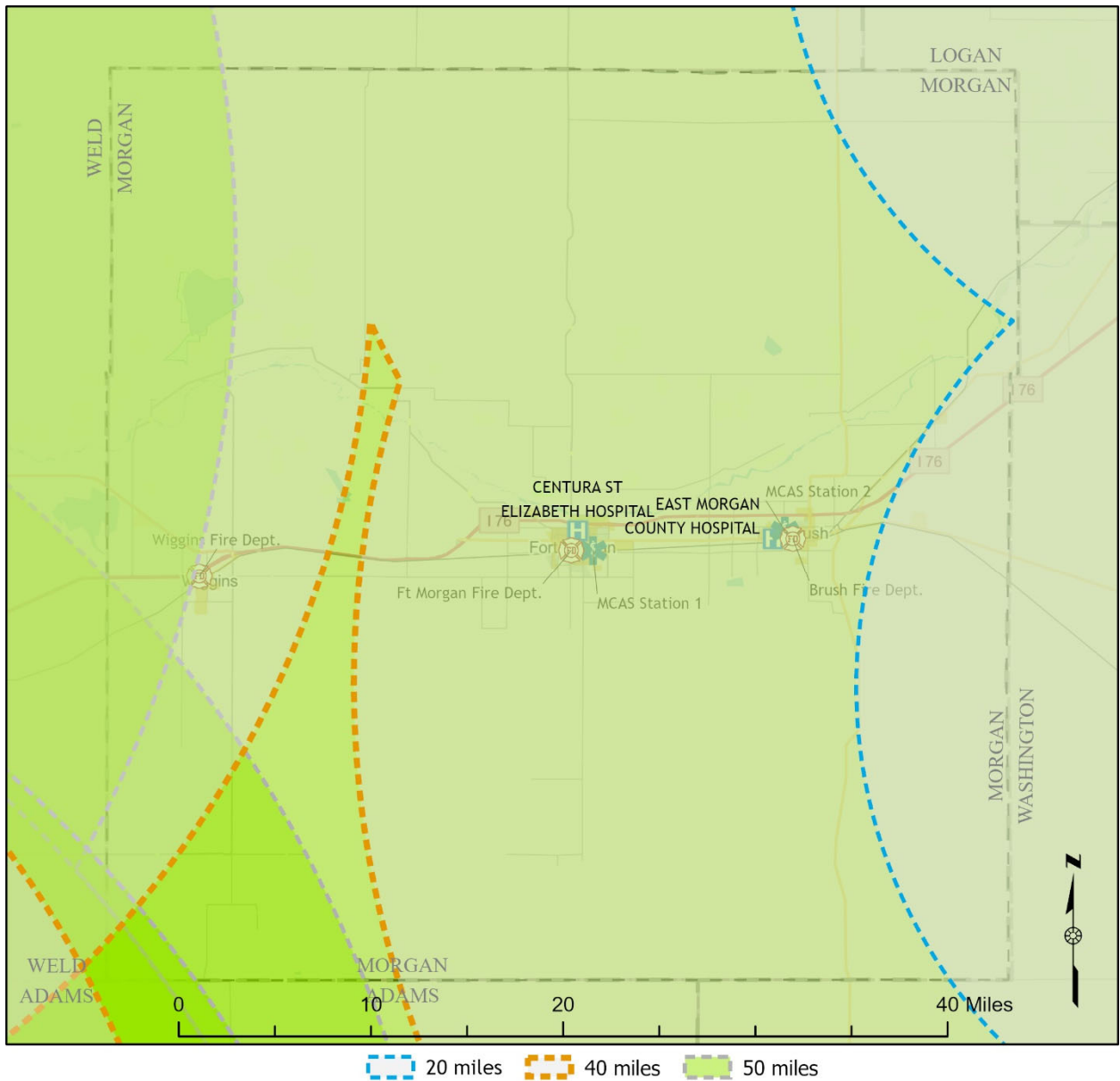
Appendix B: List of Stakeholders Interviewed

- ✱ Morgan County Ambulance Service
- ✱ Morgan County Commissioners Office
- ✱ Morgan County Sherriff's Office
- ✱ Morgan County Communications Center
- ✱ Morgan County Office of Emergency Management
- ✱ Morgan County Administrative Offices
- ✱ St. Elizabeth Hospital
- ✱ East Morgan County Hospital
- ✱ Wiggins Fire Department
- ✱ Fort Morgan Fire Department
- ✱ Hillrose Snyder Fire Department
- ✱ New Raymer Fire Department
- ✱ Fort Morgan Police Department
- ✱ Brush Police Department
- ✱ Wiggins Police Department
- ✱ Colorado State Patrol
- ✱ North Colorado MedEvac
- ✱ AirLife Denver
- ✱ Flight for Life Colorado
- ✱ Morgan County College

Appendix C: Morgan County Service Map



Appendix D: Air Medical Service Map



All areas of Morgan County are within 50 mile of one or more base locations for air ambulances licensed in Colorado.
All centers of population and municipalities in the county are within 40 miles of one or more air medical bases.

Appendix E: Assessment Team Biographical Information

Nancy Bartkowiak, RN

Nancy Bartkowiak is the Trauma Program Manager at St. Thomas More Hospital in Canon City. She has been an emergency room, trauma, or flight nurse for 33 years. She was born and raised in Orlando, Florida where she practiced at a level-one trauma center for over 10 years. That is where she developed her passion and commitment for trauma medicine. She moved to Canon City 16 years ago and began her career at St. Thomas More Hospital. Nancy has been the trauma program manager for 9 years. Nancy is a CDPHE state trauma site reviewer, committee member of the SEMTAC Designation Review Committee, and the education chairperson of the Colorado Trauma Network. Locally, Nancy is a board member of the South Colorado Regional Emergency Medical and Trauma Advisory Council and the Secretary of the Fremont County EMS Council. Nancy is passionate about trauma education and outreach, taking every opportunity to round in the hospital or get out into the community sharing trauma education. Nancy earned her Bachelor's Degree in Nursing at Valdosta State College in Valdosta, Georgia. She is a member of the Emergency Nurses Association and the Society of Trauma Nurses.

Brandon Daruna, MBA, NRP

Brandon Daruna is the CEO of Eagle County Paramedic Services and an EMS nerd. Living in Eagle, Brandon enjoys being outside with his awesome wife and son. As an over 20-year veteran, Brandon values progressive EMS that suspends patient judgment in favor of high-quality care and stellar employee support.

Beginning his career in New Orleans, Brandon cut his teeth as an EMT/Vigor at the City of New Orleans while receiving his EMT-I and Paramedic from Delgado College and Charity Hospital. Continuing as a paramedic and educator for West Jefferson Medical Center EMS, Brandon was called to the mountains in 2003. His first decade in Colorado was spent working as a Captain for Northglenn Ambulance and an FTO with the Denver Health Paramedic Division.

After receiving his MBA from the University of Denver, Brandon shifted his focus to bringing leadership and management education to emergency services, teaching Public Safety Leadership as an adjunct professor with the university. Brandon envisions a collaborative emergency services profession that takes great care of employees by removing structural barriers and supporting their wellness. Brandon currently serves as a member of the Colorado EMS System Sustainability Task Force, a steering committee member of the Northwest Regional Healthcare Coalition, and a Board Member of the Central Mountains RETAC.

Josh Hadley, NRP

Josh is a native of Chaffee County and currently serves as the Director of Chaffee County EMS. He began his career as a volunteer for Chaffee County EMS and a ski patroller for Monarch Ski Area. After sustaining a knee injury while skiing, he kindled an interest in physical therapy and pursued a degree as a physical therapy assistant at Colby Community College in Kansas. In the year of traveling across the country for internships, Josh had a renewed passion for emergency medicine and pursued EMS as a profession soon after graduating college. He started full-time as an EMT for Chaffee County EMS in 1999 and worked the very first full-time shift offered on a 24-hour ambulance for the county. Josh advanced his EMS education and was promoted to paramedic shift supervisor. From 2007 to 2013, he continued to work as a line paramedic but also shared in the operational management of the ambulance service. In 2013 he became the sole manager while continuing to work as a shift supervisor before his promotion to EMS Director in 2016. Josh has been involved in enhancing the service operationally but has also assisted in securing a dedicated funding source for the service. In 2016 Josh was selected as EMS Executive of the Year by the Emergency Medical Association of Colorado. He also serves as the Chair of the Central Mountains RETAC.

Randy Leshner, Paramedic

Randy is the retired Chief of Thompson Valley Emergency Medical Services, a health services district located in Loveland, Colorado. Randy started his EMS career at an ambulance service operating out of a funeral home in Cañon City. He owned and operated his own ambulance service for 15 years in Fremont County. He served on the State Emergency Medical and Trauma Services Advisory Council and was chairman of the Public Policy and Finance Committee. Randy is a member of the Northeast Colorado RETAC representing Larimer County, sits on the Larimer Emergency Telephone Authority and the Fremont County E-911 Board. He also served as president of the EMS Association of Colorado, a non-profit professional organization representing EMS providers and ambulance services statewide.

Joshua Poles, MD

Dr. Poles is a board-certified Emergency Medicine physician licensed in Colorado. He is the EMS Medical Director for Longmont Fire Department and Longmont American Medical Response, the Weld County Regional Communication Center (911 Dispatch Center) and the AIMS Community College Paramedic Program. He serves as the Regional Medical Director for the Northeast Colorado RETAC. He is a member of the National Association of EMS Physicians and a Fellow of the American College of Emergency Physicians. He served on the Board of Directors for the state-wide Colorado CARES Registry and held prior positions as an E.M.S. and emergency department medical director in Weld and Logan counties. Dr. Poles has a background as an EMT and went on to complete medical school at Kansas City University of Medicine and Biosciences and completed his Emergency Medicine residency at John Peter Smith Hospital in Fort Worth, Texas. He has published papers on Targeted Temperature Management and dispatcher accuracy at predicting stroke. Recently, Dr. Poles completed the year-long Quality Improvement and Safety course through the National Association of EMS Physicians.

CDPHE representative

Eric Lucas, MPH, NRP

Eric Lucas is the EMS Operations Specialist in the Emergency Medical and Trauma Services Branch at the Colorado Department of Public Health and Environment where he coordinates EMS education, provider scope of practice, and emergency preparedness and response initiatives. He believes in a data-driven approach for supporting EMS as the profession continues to grow in healthcare and public health fields. Previously he was the EMS Data Coordinator for the EMTS branch, where he worked to improve the quality of NEMSIS reporting and use of that data to help inform decision-making in prehospital care. Eric has been an active paramedic in New Mexico and Colorado since 2008, and has worked or volunteered with several EMS and fire departments since 2000 as a firefighter/medic, paramedic, and QA/QI coordinator. Eric is also a part-time EMS instructor and has worked with several EMS and paramedic education programs in Colorado and New Mexico. Eric holds a Master of Public Health degree in Epidemiology and Environmental & Occupational Health from the Colorado School of Public Health at CU-Anschutz, a Bachelor of Arts in Public Health with minor in Biology and a certificate in Geographic Information Systems from Fort Lewis College in Durango, and an Associate of Applied Science degree in Emergency Medical Services from Eastern New Mexico University. As a Colorado native Eric's volunteer activities have focused on efforts to help increase awareness about the natural resources in the state, including involvement with the strategic priorities committee at the Denver Museum of Nature and Science promoting STEM programs and teaching outdoor stewardship by leading crews on trail construction and maintenance with Volunteers for Outdoor Colorado.

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