

CARBON COUNTY WYOMING



EMERGENCY MEDICAL SERVICES SYSTEM ASSESSMENT

May 1, 2008

SafeTech Solutions, LLP
110 Peach Street
Tinton Falls, NJ 07724
Ph: (208) 639-1689
Fax: (208) 575-2783
www.safetechsolutions.us

SafeTech Solutions Project Team

John Becknell
Consultant
San Diego, California

Gary Wingrove, EMT-P (retired)
Consultant
Buffalo, Minnesota

Nick Nudell, NREMT-P
Consultant
Tinton Falls, NJ

ACKNOWLEDGEMENT

The project team would like to thank the University of Nebraska Medical Center and the Wyoming Healthcare Commission for providing significant background information. We would also like to thank the numerous stakeholders for taking time from their busy schedules to provide significant insight into the structure and organization of the Carbon County EMS System and its individual components. We give special recognition to Donna Ferguson for coordinating interviews.

TABLE OF CONTENTS

Executive Summary	5
Emergency Medical Service Systems	9
Benchmarks, Indicators, and Scoring.....	10
Carbon County Geography, Demographics & Economic Development.....	13
Carbon County Emergency Medical Services.....	15
Memorial Hospital of Carbon County Ambulance Service.....	17
Hanna Ambulance Services	19
Saratoga Ambulance Service.....	21
Baggs Ambulance Service	23
Wamsutter Ambulance Service	24
The Carbon County EMS-BIS	25
<i>EMS System Component: Integration of Health Services</i>	25
STS Observations:.....	25
STS Recommendations:	26
STS Discussion:.....	26
<i>EMS System Component: Research</i>	27
STS Observations:.....	27
STS Recommendations:	27
STS Discussions:.....	28
<i>EMS System Component: Legislation and Regulation</i>	30
STS Observations:.....	30
STS Recommendations:	30
STS Discussions:.....	31
<i>EMS System Component: System Finance</i>	32
STS Observations:.....	32
STS Recommendations:	33
STS Discussions:.....	34
<i>EMS System Component: Human Resources</i>	36
STS Observations:.....	36
STS Recommendations:	37
STS Discussions:.....	37
<i>EMS System Component: Medical Direction</i>	39
STS Observations:.....	39
STS Recommendations:	40
STS Discussions:.....	40
<i>EMS System Component: Education Systems</i>	42
STS Observations:.....	42
STS Recommendations:	42
STS Discussions:.....	43
<i>EMS System Component: Public Education</i>	44
STS Observations:.....	44
STS Recommendations:	44
STS Discussions:.....	45
<i>EMS System Component: Illness/Injury Prevention</i>	46
STS Observations:.....	46
STS Recommendations:	46
STS Discussions:.....	46
<i>EMS System Component: Public Access</i>	47

STS Observations:	47
STS Recommendations:	48
STS Discussions:	48
<i>EMS System Component: Communication Systems</i>	49
STS Observations:	49
STS Recommendations:	50
STS Discussions:	50
<i>EMS System Component: Clinical Care</i>	51
STS Observations:	51
STS Recommendations:	52
STS Discussions:	52
<i>EMS System Component: Information Systems</i>	53
STS Observations:	53
STS Recommendations:	53
STS Discussions:	54
<i>EMS System Component: Evaluation</i>	55
STS Observations:	55
STS Recommendations:	55
STS Discussions:	56
<i>EMS System Component: Medical/Health Disasters</i>	57
STS Observations:	57
STS Recommendations:	58
STS Discussions:	58
Appendix A: State Statute Excerpts	60
Appendix B: Financial Tables For Discussion	68

Executive Summary

Carbon County emergency medical services (EMS) is a system, a system made of disparate individual components functioning well together to serve the needs of the residents and visitors of the county.

What we found

- **High Level of Clinical Care** – Most of the approximately 1600 annual prehospital EMS patients in Carbon County are treated at an intermediate or advanced life support level of care. This is accomplished because of an innovative EMT-Intermediate training program conducted through the hospital in Rawlins. All ambulance services responding in the county except Hanna currently have some intermediate level providers.
- **Engaged and Proactive Medical Direction** – Carbon County is fortunate to have a passionate EMS Medical Director in Duane Abels. Providing Medical Direction and oversight for all ambulance services except Baggs, Abel's hands-on approach to provider development, continuing education and quality review ensures a high level of prehospital clinical competence and provides credibility and advocacy for the integration of EMS into the county's larger healthcare picture.
- **EMS Integration into Hospital Setting** – The successful utilization of EMT-Intermediates in the emergency department at Memorial Hospital of Carbon County provides a cost-effective way to utilize paid ambulance staff and assists in the development and maintenance of critical medical skills.
- **Growing Community and Governmental Awareness of the Value and Needs of EMS** – Many of the community and governmental leaders in Carbon County are concerned about the future of EMS in the County and demonstrate a desire to consider new ideas and see current events as an opportunity for improvement.
- **Mutual Aid and Working Together** – All ambulance services in the county demonstrate a willingness to respond beyond their communities or usual response areas to ensure seamless coverage for the county. The directors of all ambulance services acknowledged the need for a countywide approach to EMS coordination.
- **Wamsutter Ambulance's Allegiance to Carbon County** – While located just west of the Carbon County line in Sweetwater County, the Wamsutter Ambulance identifies with Carbon County and the hospital in Rawlins, considers itself part of the "Carbon County EMS System" and receives medical direction from Carbon County. It is also one of the best-funded volunteer ambulance services in the county because of its proximity to current gas and mineral extraction activities.
- **Some integration of EMS into total picture of healthcare** – Being integrated into the emergency department at the Memorial Hospital of Carbon County and (to varying degrees) in the County health care clinics in Saratoga, Baggs and Medicine Bow, EMS in Carbon County enjoys some recognition as being a part of health care and not just public safety.

- **Current Economic Development Opportunities** – The current increase in economic activity in gas, oil and coal extraction in Carbon County potentially provides additional attention and resources for EMS. Some ambulance services are being subsidized with grants and equipment from oil companies and it appears there is some interest from oil companies in ensuring there is quality, reliable EMS in the area.

Challenges

- **Operational Fragmentation** – Currently there is no countywide EMS coordination, no master plan for the future provision of EMS and limited inter-agency communication.
- **Lack of Data Collection and Analysis** – There is currently no countywide collection of EMS data on such important items as types of calls, response times, transport times, patient outcomes, provider skill experiences, and skill success. There is no data on workforce issues such as number of hours of coverage volunteers are assuming, number of volunteers needed and numbers of open positions. There is no data on call location and call time that would allow of informed resource deployment planning.
- **Trend in Declining Volunteerism** – All Carbon County volunteer ambulance service directors acknowledged a trend in declining volunteer availability and growing difficulty in recruiting and retaining volunteers. In most areas, a few volunteers appear to be shouldering the bulk of the coverage time. Daytime coverage is particularly challenging. All of the volunteer ambulance service directors were pessimistic about the future of volunteerism. None had formal plans for increasing the number of people in the supply pipeline.
- **Addressing Ambulance Coverage in Eastern Carbon County** – The May 2007 collapse of the volunteer service in Hanna has created a countywide challenge for providing coverage in eastern Carbon County and specifically for the communities of Hanna, Elk Mountain, and Medicine Bow. A new volunteer service was formed in Hanna but only has four volunteer EMTs operating at a basic life support level. Currently no other volunteers are in the pipeline. Some citizens in Hanna and Medicine Bow stated that the lack of experience and the quality of the persons providing this new service would keep them from using the service. Memorial Hospital of Carbon County is providing twelve-hour daytime paid ambulance coverage in Elk Mountain but will discontinue this service in May. There are approximately 190 calls per year in this area with the majority of these calls coming from accidents on I-80. There is currently some confusion about Laramie Fire Department Ambulance response to this area as a back up.
- **High Turnover of EMS Staff at Memorial Hospital of Carbon County** – There is high turnover of paid EMT-Intermediates at the hospital in Rawlins (the exact rate of turnover is not clear). Inadequate pay and the inability to attract providers to Rawlins appear to be the issues. High wages within the area due to the gas, oil, and

mining boom have diminished the local pool of potential workers. Some EMS workers at the hospital go on to nursing or other healthcare professions.

- **Long Response Times With Limited First Response** – EMS in Carbon County relies primarily on Ambulance response. However, ambulance response in some cases and some locations can take up to one hour. There is very limited first response from volunteer fire departments. While Sheriff's Deputies and local police officers provide some first response there is no coordinated efforts to create a tiered response system.
- **Growing Traffic Corridor** – Crossing Carbon County, Interstate 80 is the second-longest interstate route in the nation serving as a main route between San Francisco and New York City. Thousands of vehicles cross through Carbon County daily and a large portion of those vehicles are semi-trailer trucks. According WYDOT more than 6 million trucks passed through Wyoming in 2006 and that number was projected to increase in coming years. Traffic accidents, highway closures and hazardous driving conditions on I-80 present major challenges for EMS in Carbon County. I-80 produces a significant number of EMS responses – especially in eastern Carbon County where ambulance resources are thin. EMS providers from Hanna claim that more than 60 percent of their transports are from calls on I-80. During winter months I-80 can be closed to all travel because of snow, blowing snow and ice, and response times can significantly increase. Meeting the growing demand of this busy traffic corridor will be an ongoing challenge for Carbon County EMS.
- **Fragmented Call Intake, Dispatch and Pre-Arrival Instructions** – Currently there are four 911 Public Safety Answering Points in Carbon County. Some areas lack enhanced (addressing information) 911. The Sheriff's PSAP has Emergency Medical Dispatch trained dispatchers and coordinates ambulance dispatching for Rawlins, Wamsutter, and Baggs. The PSAPs at the Rawlins, Saratoga, and Hanna police departments do not provide pre-arrival instructions.

Recommendations

- **Create and Empower County EMS Coordinator Position** – The job of this position will be countywide EMS planning, coordination, data collection, inter-agency communication, integration with health care and implementing a comprehensive countywide EMS strategic plan.
- **Form Countywide EMS Council** – Form an EMS Council made up of all key stakeholders with the goals of creating a seamless, quality county EMS system that is integrated into the county health care. The proposed Joint Powers Board could transition into this role if other recommendations become a reality.
- **Create Master Plan** – The county EMS coordinator and EMS Council should create a master EMS strategic plan for the county that makes Rawlins hospital the focal point for coordinating prehospital clinical care and medical direction in the county. Advanced level ambulance staff should be based in Rawlins and assigned periodic

shifts in other areas. This will assure consistent medical director contact and skill maintenance by use of skills in the emergency room.

- **Workforce Planning** – Within the process of master planning create a process for realistic future EMS workforce planning in Carbon County. This means identifying how many volunteer and paid staff will be needed (demand) going forward, the current supply of workers, trends in turnover and strategies for attracting workers into the pipeline. This will be an essential part of a successful EMS system.
- **Development of Two-Tiered EMS System** – Volunteer- and public safety-based first response would improve immediate care of prehospital patients and provide support for patients during long ambulance responses. Police and sheriff patrol vehicles should be equipped with automated defibrillators. The county fire department's volunteer pool is underutilized as first responders.
- **Explore Creative funding of Paid Ambulance Staffing** – Seek legislation to create an ambulance taxing district. Explore opportunities to further utilize advanced EMT-Intermediates in more healthcare roles, such as working in clinics and partnerships with home health or public health.
- **Improve Communication With Public** – Develop relationships with local media sources to improve the public knowledge and awareness of EMS.

Emergency Medical Service Systems

In 1996, the National Highway Traffic Safety Administration (NHTSA) established an agenda for EMS system development into the 21st century. The EMS Agenda for the Future identified fourteen attributes that make up the modern EMS system including (NHTSA, 1996):

- Integration of Health Services
- EMS Research
- Legislation and Regulation
- System Finance
- Human Resources
- Medical Direction
- Education Systems
- Public Education
- Prevention
- Public Access
- Communication Systems
- Clinical Care
- Information Systems
- Evaluation

Those same attributes were evaluated in Carbon County, serving as the key components of modern EMS system design. STS recognizes the rural nature of Carbon County requires that benchmarks and experiences specific to rural and frontier EMS systems should be considered wherever possible.

In 2004 the National Association of State EMS Officials commissioned the development of the National Rural and Frontier EMS Agenda for the Future. STS partner Gary Wingrove served on the editorial board. Due to the rural specificity and national consensus, STS has incorporated guidance from the 2004 Rural and Frontier EMS Agenda for the Future in this report.

The following assessment and recommendations are organized around the 14 EMS system attributes outlined in the Rural & Frontier EMS Agenda for the Future¹ and includes an additional component for mass casualty readiness.

The written objective EMS self-assessment process used by STS was modeled after a statewide trauma system assessment developed by the Health Resources and Services

¹ <http://ruralhealth.hrsa.gov/pub/REMSTTAC/RuralEMSManagers.asp>

Administration of the United States Department of Health and Human Services. This process, known as Trauma-BIS, evaluates a number of benchmarks through indicators of the structure, process and evaluation. Each indicator is rated using ranked scoring. This is a valuable process that leads to predictable and measurable improvements across such complex systems.

The Carbon County EMS self-assessment was based on a state of Colorado project, known as EMS-BIS. EMS-BIS was developed and implemented for a multi-county region of Colorado in 2006. STS adapted the Colorado multi-county process for use as a single county EMS assessment for Carbon County. The following information is adapted from the HRSA website and describes the Benchmarks, Indicators, and Scoring (BIS) tool.

Benchmarks, Indicators, and Scoring

Benchmarks are global overarching goals, expectations, or outcomes. In the context of the EMS system, a benchmark identifies a broad system attribute.

Indicators are those tasks or outputs that characterize the benchmark. Indicators identify actions or capacities within the benchmark. Indicators are the measurable components of a benchmark.

Scoring breaks down the indicator into completion steps. Scoring provides an assessment of the current status and marks progress over time to reach a certain milestone.

Within each core attribute (e.g. System Integration, Human Resources, and System Finance) are a variety of potential benchmarks. These potential benchmarks are based, to the extent possible, on current literature on EMS system development and public health systems. For each benchmark, a number of indicators further define the benchmark and scoring for each indicator to assist in identifying progress, efforts, or compliance, or any combination of these. Each indicator contains a scoring-mechanism ordering of statements to assess progress to date. The following criteria are used to assess progress in complying with each indicator:

Score	Criteria
0	Not Known
1	No
2	Minimal
3	Limited
4	Substantial
5	Full

Each participant reviews the criteria listed for each indicator and select the one that best describes the jurisdiction's current capability. A large and diverse stakeholder group is important, not just for local buy-in but also the collective objectiveness of the community. The following table provides an example of how the above criteria are used to assess EMS system progress for a specific indicator.

Example of Progress Scoring

Indicator 1.1: The EMS agency has convened, or participated in a multidisciplinary planning process that describes the role of the agency within the health care and public safety systems serving the community and the region.

Score	Criteria
0	The scorer does not know enough about the indicator to evaluate it effectively.
1	There is no evidence of partnerships, alliances, or working together to integrate the system.
2	There have been limited attempts to organize groups, but to date no ongoing system committees meet regularly to design or implement the local system.
3	The agency participates in a committee that meets regularly to develop and implement a comprehensive system plan.
4	The agency demonstrates an ability to bring together or participates in a multidisciplinary group that is developing, implementing, and maintaining a comprehensive system plan with measurable goals and objectives pertaining to system integration.
5	The agency has brought together or participated in a stakeholder group to assist with and make recommendations on the development and implementation of the system, through a multidisciplinary advisory committee. Multiple stakeholders for various disciplines are routinely recruited to participate in system operational issues and refinement depending on expertise needed (e.g., public health, public safety) and as part of a comprehensive system planning process.

Benchmark 1.0

For its patients and the community as a whole, the Emergency Medical Services (EMS) agency provides care and services that are integrated with other health care providers, community health and public safety resources.

Indicator	Score
Indicator 1.1	2.88
Indicator 1.2	2.7
Indicator 1.3	2.39
Median Score Expectation 1.0	2.66

In this benchmark, the median score of "2.66" would indicate that, overall, there is evidence of some, but limited progress in meeting the expectation. Although this scoring mechanism provides a quantitative descriptor of each indicator and, ultimately, of the entire EMS system, the scoring process has a number of methodological limitations:

- The benchmarks focus primarily on process measures, not on outcomes. It is assumed that meeting these process measurements will result in improved outcomes. Each EMS system, however, will determine its specific outcome goals. As better-defined and measured national benchmarks are established, it will be possible to assess progress with national outcomes and with nationally established performance guidelines.
- Despite the apparent objectivity of the evaluation methodology, it still relies on the qualitative judgments by those completing the assessment.
- Despite efforts to make the document fully objective, it is difficult to provide complete operational definitions for some terms. One assessment to another will vary considerably, depending on the experience and expertise of the assessor.
- The data presented are rank ordered. Therefore, it is not possible to do parametric statistical analysis such as a mean. Individuals are cautioned not to perform statistical analyses that exceed the underlying data assumptions. Likewise, persons are cautioned about drawing conclusions from the median score. Because the points are not discrete points on an ordered scale, it is not possible to say, for instance, that a score of 4 is twice as good as a score of 2. The median simply denotes the relative progress in achieving the benchmark.
- Although focus groups have reviewed the rank-ordered expectations, some may disagree with both the order and the content. This section and its scoring are not absolute.
- The benchmarks and indicators are not exhaustive. Additional indicators will be added and some existing indicators will be deleted from these tools over time.
- The self-assessment is but one tool to use in assessing the progress a system has made in meeting the above-referenced benchmarks and indicators. Any system review should include outcome measures as a full measure of system performance.

The benchmarks, indicators, and scoring (BIS) are in early form and are clearly intended to be a living tool that will evolve and be refined as the BIS are used across a variety of settings. Eventually, weighting criteria will be added so that the more important aspects of a comprehensive and inclusive EMS system are more clearly identified.

The intent of the tool is to allow an individual EMS system to identify its own strengths and weaknesses, prioritize activities, and measure progress against itself over time. It is not intended to compare one system to another.

Carbon County Emergency Medical Service Goals

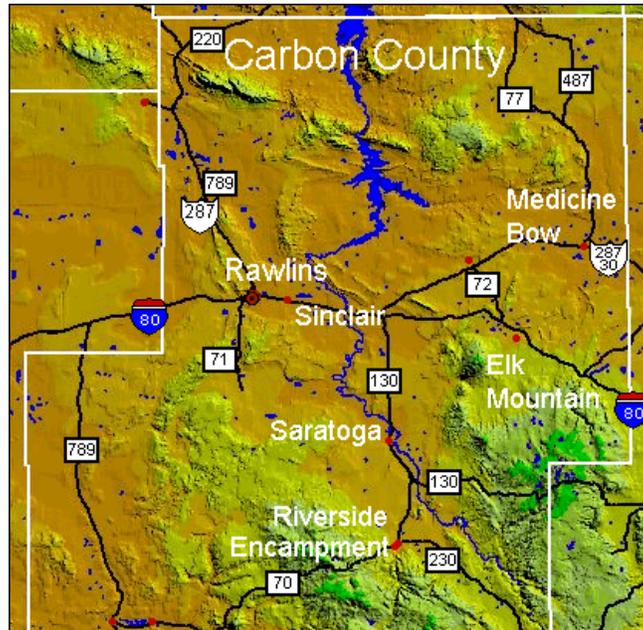
While we received some formal scoring from individuals, the scores for Carbon County were assigned by STS based on our observations, interviews of key informants, and the limited scoring by participants. A more thorough process and analysis might yield different scoring results. This is a process that could be completed as one of the assigned activities of the new EMS council.



Carbon County Geography, Demographics & Economic Development

Carbon County is in south central Wyoming and made up of mountains, desert and alpine prairie. The County is known for its big changeable sky and rugged open country with small communities, ranches and settlements sparsely scattered over nearly 8,000 square miles. The County is bisected by Interstate 80, one of the busiest cross-country land routes, as well one of the nation's busiest cross-country railroad corridors. Both historically and today, the economic backbone of Carbon County has been ranching, mining and oil and gas extraction.

According to the US Census Bureau 2006 estimate, Carbon County Wyoming has 15,325 residents living in 7,896 square miles (approximately 2 persons per square mile). This represents a 2.0% decrease over the last six years compared to Wyoming's overall growth of 4.3% and national growth of 6.4%.



More than half the population resides in the county seat of Rawlins with a population of 8,538. The remainder resides in 10 incorporated communities, (the largest Saratoga with 1726 residents and Hanna with 873 residents) and numerous ranches and unincorporated areas. 12.7% of residents are over age 65 and 22% are under the age of 18 with the median age of 39 years with slightly more males than females in the county.



In 2000, the homeownership rate was 71% with the median value of an owner occupied housing unit at \$76,000. The median household income in 2004 was \$40,750. Private non-farm employment during 2000-2005 decreased 9.9%, while it grew 9.9% in the state. In the last 2 years Carbon County appears to be experiencing some growth in jobs in the mining, oil and gas extraction industries.

Carbon County Emergency Medical Services

Emergency medical service in Carbon County is provided by a casually organized network of five ambulance services. While there is some limited first responder activities from the State Patrol, county sheriff's deputies, local police and county and local fire departments, EMS response is single tiered relying primarily on ambulance response. Fire departments and public safety agencies provide assistance for extrication and rescue manpower but there is limited or no planned first response. There is some limited helicopter service from Casper Wyoming, Greeley, Colorado, and Salt Lake City, Utah, however, because of distance, helicopter scene response is rare. Most EMS air transport (both rotor wing and fixed wing) is interfacility.

Ambulance services are located in Rawlins, Baggs, Hanna, Saratoga, and Wamsutter. Wamsutter lies just across the western county line in Sweetwater County. The county has been divided up into ambulance services areas and response times can be as long as an hour or more depending on location and weather. All ambulance services in the county demonstrate a willingness to respond beyond their communities and response service areas. Most EMS patients in the country are transported to a hospital in Rawlins. Other hospital destinations include Laramie, Casper, Rock Springs, Craig, Fort Collins, and Denver. EMS workers estimate that 65-70 percent of EMS calls are for trauma.

Memorial Hospital of Carbon County, a 35 bed acute care facility which includes ER, ICU, medical, surgical, pediatrics, OB, ambulatory surgery and long term care, is the county's only hospital. The hospital owns the busiest ambulance service in the county and serves as an EMS training institution for the county providing initial EMT and EMT-Intermediate instruction and continuing EMS education. The nearest regional trauma center is in Casper Wyoming (117 miles or two hours by ground from Rawlins).

The county has a network of health clinics in Medicine Bow, Saratoga, and Baggs. Beyond occasionally treating minor problems these clinics do not routinely provide emergency care. Other area medical facilities include hospitals in Laramie (100 miles from Rawlins), Rock Springs (108 miles), Craig, Colorado (118 miles), and Fort Collins, Colorado (164 miles).

Most of the approximately 1600 annual prehospital EMS patients in Carbon County are cared for by providers functioning at an intermediate or advanced life support level of care. This is accomplished primarily through an innovative EMT- Intermediate training program conducted through the hospital in Rawlins and through progressive medical protocols and medical oversight from the county's two EMS medical directors. Four ambulance services responding in the county have some intermediate level providers. Currently Hanna has no EMT-Intermediate providers.

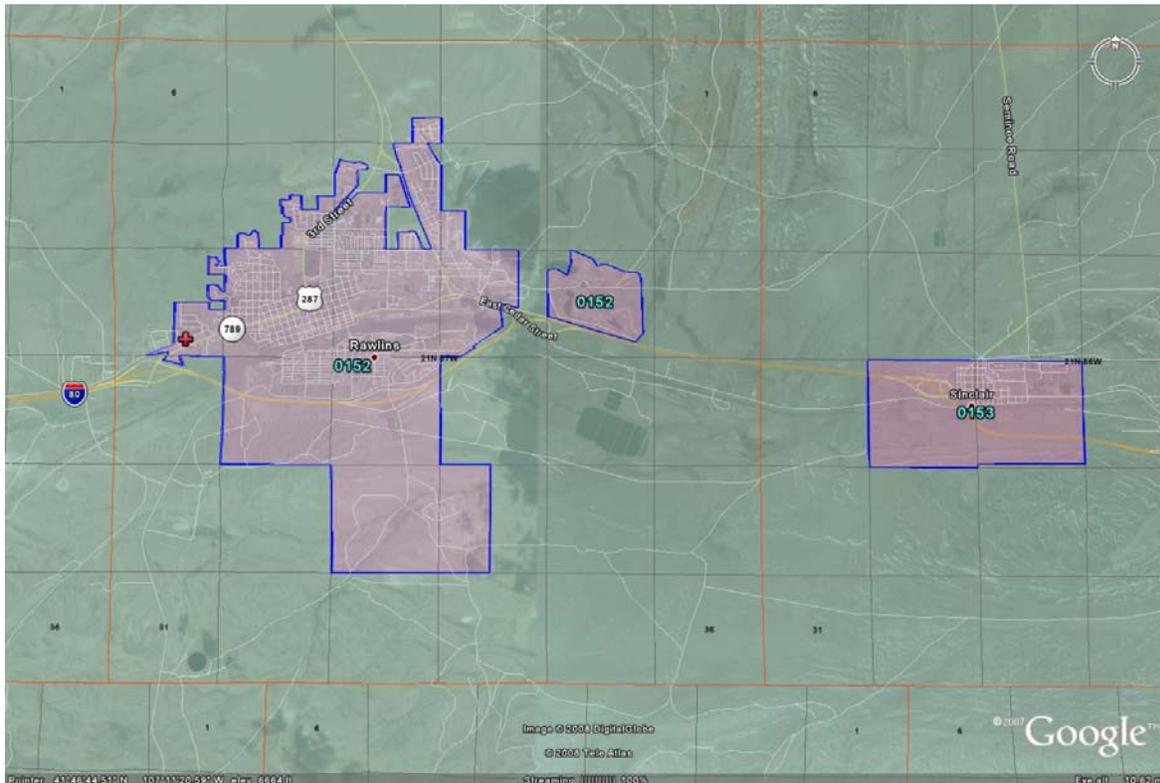
Emergency calls to 911 in Carbon County are answered at answering points at the Rawlins Police Department, the Carbon County Sheriff's Department and the Saratoga Police Department. Calls for EMS are routed to the Sheriff's Department communication center in Rawlins who then dispatches ambulances. Ambulances can communicate with each other and with public safety departments.

Four of the five ambulance services in Carbon County are staffed by volunteers. The Memorial Hospital of Carbon County ambulance service is staffed by paid EMT-

Intermediates who work in the hospital's emergency department when not responding on the ambulance. Saratoga has recently hired a full time paid ambulance director and the ambulance direction for Baggs is coordinated by the paid staff at the Noyes Clinic in Baggs.

Medical direction for four of the five ambulance services is provided by Duane Abels, DO, an emergency medicine physician at Memorial Hospital of Carbon County. Abel's hands-on approach to EMS includes unified protocols for the services he directs, provider development, initial and continuing EMS education and quality review. He is actively involved and encourages a high level of prehospital clinical competence. His involvement lends credibility and provides advocacy for the integration of EMS into the county's larger health care picture. Medical direction for the Baggs Ambulance services is provided by Thomas Told, DO, a family practice physician from Craig, Colorado. Told has had a long involvement with the ambulance service and serves part-time at the Noyes Clinic in Baggs.

Obtaining clear, comprehensive assessment data about EMS in Carbon County is difficult. There is no formal coordination of EMS at a county level. There is no central EMS data collection for the county, even though such data is likely available from the state EMS office. It is unknown exactly how many responses and transports take place in the county. It is unknown how many trained and certified providers reside in the county. It is difficult to assess the performance of the system because each service functions with a high degree of independence. While the county provides funding for EMS through the purchase of vehicles and shared staff between its health clinics and the ambulance services oversight of the EMS occurs primarily at a community level.



Memorial Hospital of Carbon County Ambulance Service

Located in the county seat of Rawlins (population 9006) and responding to approximately 1,100 calls per year, the hospital based ambulance service at Memorial Hospital of Carbon County is staffed by paid EMT-Is (intermediates) who also work in the hospital's emergency department. Two EMT-Is are on duty 24 hours per day and work 12 hour shifts. A second ambulance crew is available to respond by pager and a third can be called in by telephone.

The EMT-Is have completed various advanced modules that allow them to function at an advanced life support level with the ability to intubate, administer most common prehospital medications, and perform chest decompression. They do not administer IV drip medications or perform 12 lead EKGs in the field. In the emergency department they perform patient assessments, administer medications (including IM injections), insert NG tubes, IV lines and urinary catheters and perform EKGs.

The staff includes a director, 7 full-time EMT-Is and 10-12 per diem EMT-Is. Pay rates range from \$9 -16 per hour with opportunities for on-call pay and overtime. The ambulance service bills patients for its services through the hospital billing department.

Hospital personnel (physicians, nurses, and ambulance staff) provide much of Carbon County's EMS education. The hospital functions as an EMS training site for EMT and EMT- Intermediate education and provides free continuing education for other EMS providers and first responders in the county. Four of the five ambulance services serving

the county receive medical direction and oversight from a hospital emergency department physician.

Since mid 2007, the ambulance service has staffed a second ambulance 12 hours per day and based it in Elk Mountain. The additional coverage was offered by the hospital as a temporary solution to the lack of service in the eastern portion of Carbon County when ambulance services in Hanna ceased operation in May of 2007. This coverage is planned to end in May 2008.

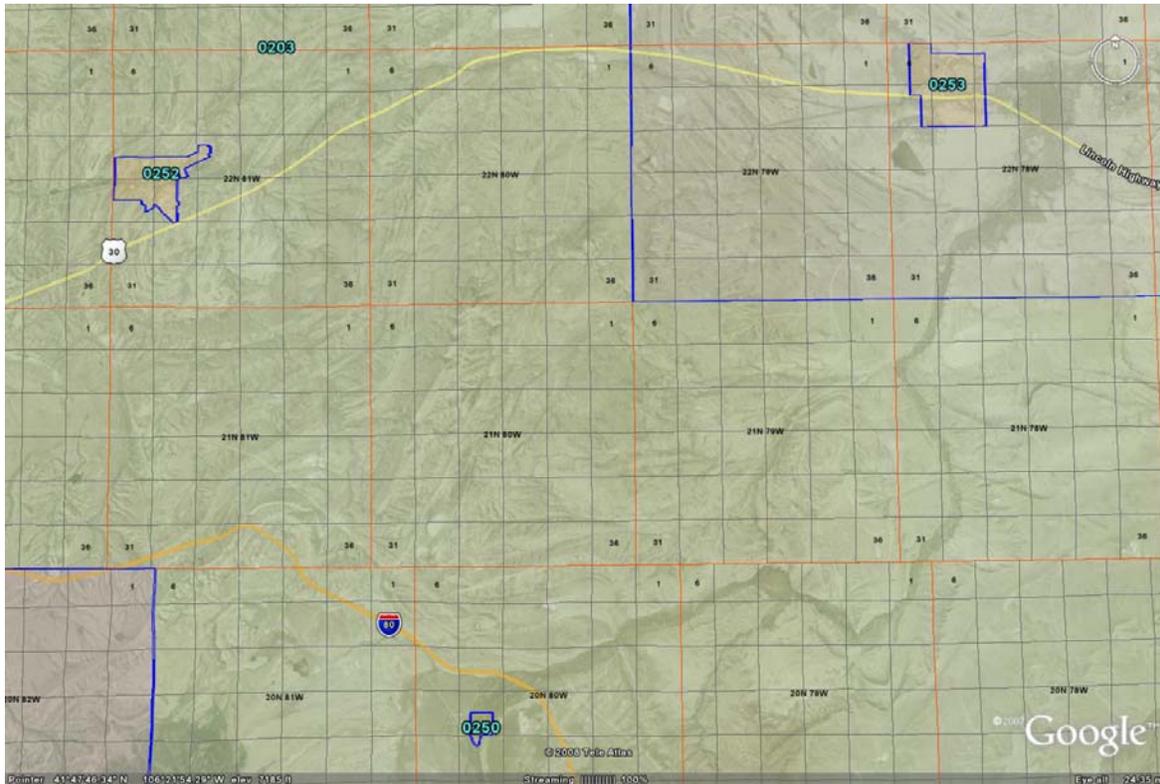
The challenges facing the Memorial Hospital of Carbon County ambulance services are high staff turnover, recruitment of quality workers, worker attitudes and the ongoing cost burden of serving other areas in the county with coverage, continuing education and medical direction.

High staff turnover appears to be associated with: low pay (compared to the pay rates of other available jobs in the county); the perception of some ambulance staff that the role of working in the emergency department and hospital is not recognized and rewarded sufficiently; the difficulty in attracting workers to Rawlins; and the inability to hire workers under the age of 25 because of the hospital's vehicle insurance requirement. Both public safety and health care professionals in the county believe the high turn over rates have some impact on quality.

In our experience recruitment, retention and turnover will continue to be problem if pay lags behind similar or unskilled jobs in the region. The ambulance service will have a difficult time recruiting from outside the area unless it can offer an attractive career opportunity for EMS providers.

We believe Memorial Hospital of Carbon County's success with integrating EMT-Is into the hospital emergency department is admirable and should be continued. The experience and skill development that this arrangement provides benefits both the hospital and the prehospital environments. However, if the EMT-Is believe that their role in the hospital is simply a low cost option for hospital staffing of the emergency department, low morale and turnover may continue. Increasing pay and systematical assisting EMT-Is in career development may increase the desirability of the job and quality of recruits.

Turnover may continue to be high as the in-hospital experience will encourage career interest in nursing and other areas of health care. Memorial Hospital of Carbon County can systematically plan for this turnover by creating an opportunity where career development is promoted and supported and attracts the best and brightest.



Hanna Ambulance Services

Hanna Ambulance Services is located 40 miles east of Rawlins, in east central Carbon County, and is operated by the Hanna-Elmo Volunteer Fire Department and EMS. Hanna responds to approximately 180 calls per year, most of which are along Interstate 80 for trauma. The ambulance service provides coverage for the towns of Hanna (pop. 873), Medicine Bow (pop. 274) and Elk Mountain (pop. 192). The ambulance service is city owned and operates within the fire department.

In May of 2007, a non-profit volunteer ambulance service in Hanna, run by fire department members, ceased operations after a dispute with city officials. The service had operated at an advanced life support level, performed its own billing, and collected annual revenues between \$110,000 and \$180,000. The volunteers who had participated prior to the dispute have declined to participate in the new service.

The new service is staffed by a newly organized group four volunteer EMTs and seven basic emergency care (BEC) responders. The service was organized in 2007 but has had difficulty attracting volunteers and providing reliable 24-hour coverage. Funding (approximately \$35,000) for this new service is being provided by the city of Hanna. Other funding will come from community fund raising, donations and yet be established billing process.

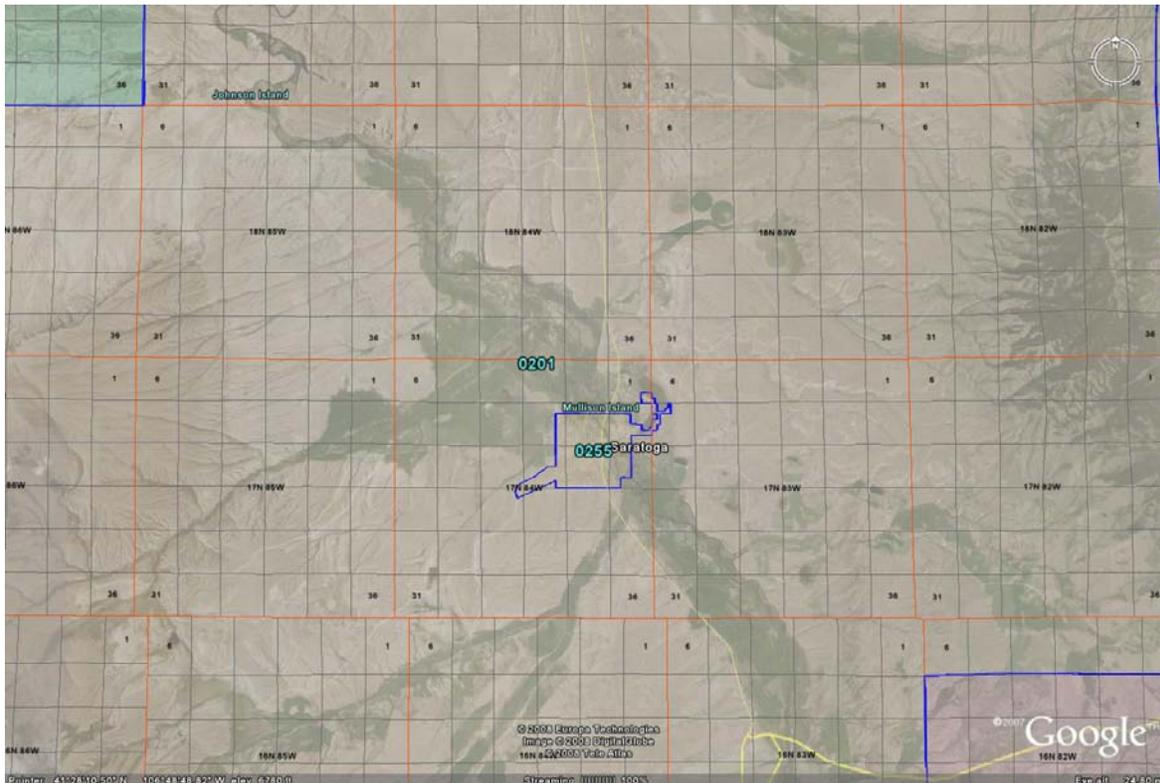
As mentioned previously, Memorial Hospital of Carbon County Ambulance Service is providing daytime ambulance coverage to the area in Elk Mountain (16 miles from Hanna) that will end in May, 2008. An effort is under way by the county commissioners to form a Joint Powers Board between the communities of Hanna, Medicine Bow, and Elk Mountain

(with the County and the Memorial Hospital of Carbon County also as members) to address the issue of ambulance coverage in the eastern regions of the County. At the time of this assessment, it was not clear how a Joint Powers Board might address those needs.

The current challenges facing the Hanna ambulance service are finding enough volunteers to train as EMTs; finding enough staff available during daytime hours; finding financial resources to maintain the operation; setting up a billing process; and establishing trust and credibility in the communities it serves. In addition, Hanna (along with Saratoga) faces the challenge of continuing to meet the growing demand for services along I-80, especially during in climate weather when multiple accidents and difficult driving conditions can tie up response crews for hours at a time.

The current EMTs are carrying a heavy on-call load and both the current ambulance director and fire chief agree that volunteer recruitment is a major challenge in the area. No EMTs were reported to be in the training pipeline. In our experience four EMTs are not sufficient to have reliable sustainable 24/7 BLS ambulance service without burnout and a possible impact on quality of care. We do not believe that the volunteerism is a sustainable way to provided ambulance services in this area of Carbon County.

We recommend that a county EMS Council consider creative ways to fund some or all of the ambulance coverage in eastern Carbon County.



Saratoga Ambulance Service

Located 42 miles southeast of Rawlins in the community of Saratoga, the Saratoga Ambulance Service provides coverage for the communities of Saratoga (pop. 1726), Encampment (pop. 443), and Riverside (pop. 79). The service is a volunteer service associate with the clinic and has two ambulances located in Saratoga and Encampment, only one of which is active at night. There is a first responder unit in Riverside.

Saratoga Ambulance is funded within the Medical Clinic Foundation, but is operated by the city council. Many patients treated by the Saratoga Ambulance choose to use hospitals outside the county for outpatient and inpatient services. There is a perception in the Saratoga area that Laramie Ambulance will not enter the county for intercepts. In conversations we had with the state EMS office, it appears this is because of one specific incident in the past. The state EMS office has verified that Laramie Ambulance will respond into Carbon County as needed to provide a higher level of care.

In 2006, Saratoga hired a full time director who is a city employee. This step was taken because of a decline in volunteers. Our experience nationally reveals that sometimes when a community takes the step of hiring a full-time director, friction within the staff develops for a variety of reasons. Saratoga is experiencing this friction.

The (relatively) unpaid volunteers misinterpret the paid manager's role to be available to take calls 24 hours a day and to complete all tasks that are unrelated to direct care (such as vehicle stocking and cleaning). The manager may then become frustrated by a perceived lack of support. All of these appear to be occurring in Saratoga. The city council should know that these are common transitional issues that will resolve over time

with excellent communication between the city council, the manager, and the volunteers.

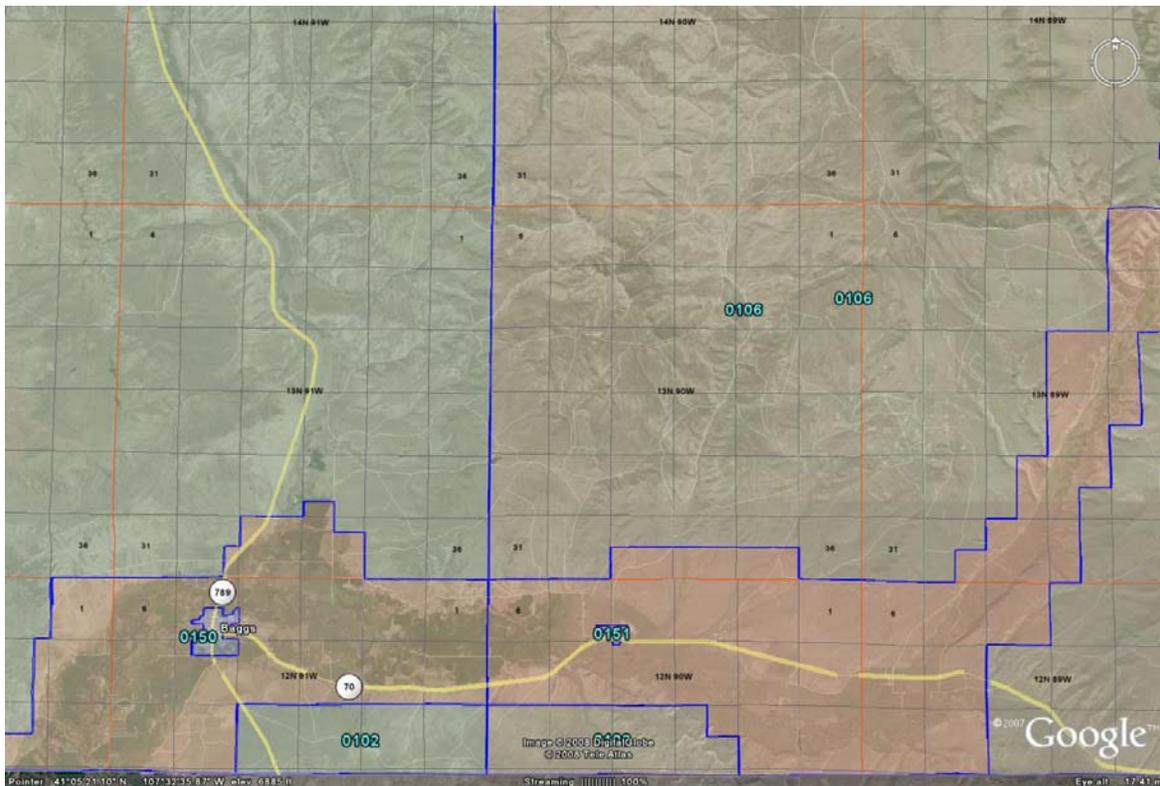
There is a perception in the community that volunteers cannot be held to standards or be accountable for their performance. Our experience is quite the opposite. Successful volunteer ambulance services provide structure, have commonly developed rules, and have consequences for unsatisfactory performance.

Saratoga suffers from a system design that lacks accountability. For example, volunteers do not sign up for specific shifts. Consequently, no one is accountable to assure the ambulance can respond, which leads to multiple pages for EMTs by the PSAP on the unexciting ambulance calls and too many responders for others. It also leads to dead weight within the service in that some people want to be counted as volunteers for personal reasons, yet never intend to, and do not actually serve the community.

Saratoga could benefit by following the lead of their counterparts all over the nation by establishing a call time roster upon which volunteers sign up for specific shifts. The city should also thank members of the squad that have served in the past but are not currently doing so, and I remove them from the roster. Saratoga has 30 members on the roster, with only five or six actually performing service. Our experience is that structure, rules and consequences will actually bolster the ranks, not deplete them.

Saratoga conducts a skills rodeo twice per year. Every other year either Saratoga or Memorial Hospital of Carbon County sponsors an EMT class. EMT-Intermediate training is controlled and authorized by the state EMS office. Dr. Abels supplements intermediate training when needed, as authorized by the state. Saratoga participates in disaster drills conducted in Rawlins when staff are available.

While there is a public health office in Saratoga, the Saratoga Ambulance is not connected to it in any meaningful way.



Baggs Ambulance Service

Located 77 miles southwest of Rawlins, near the Colorado boarder the Baggs ambulance service known as Little Snake River EMS, provides coverage for the communities of Baggs (pop. 348) and Dixon (pop. 79) responds to calls in four counties but also provides some coverage into Colorado. Responding to 75-100 calls annually the ambulance is staffed by nine volunteer EMTs, one BEC, a physician's assistant and registered nurse who work at the local healthcare clinic, and occasional untrained citizen drivers. Most of the Little Snake River EMS calls are for trauma and are delivered to the Memorial Hospital in Craig, Colorado so EMTs must be certified in both Wyoming and Colorado.

The ambulance director is a staff member of the clinic and its medical direction is provided by a physician (Thomas Told, DO) who sees patients at the clinic and practices in Craig, Colorado.

The current challenges for Little Snake River EMS are attracting and retaining volunteer EMTs and motivating EMTs to obtain more training. The EMS staff do not feel connected with EMS in the rest of Carbon County.

Little Snake River EMS has formed a non-profit corporation that is separate from the clinic that is funded by billing revenues, donations, and a recently formed rural health district. The clinic provides billing for the ambulance service. Carbon County owns the clinic and the ambulance vehicles.

This model of funding for the ambulance service through a rural health care district should be followed closely by the leadership of Carbon County as a potential model of funding elsewhere.

Wamsutter Ambulance Service

Located just west of Carbon County in Sweetwater County, the Wamsutter ambulance service provides service to its rapidly growing community (pop. est. between 850 and 1200). A recent boom in the gas and oil business has brought new growth to the community and is expected to continue for the next decade or more. The ambulance service responds to approximately 150 calls per year, the majority are traumatic injuries resulting from motor vehicle accidents and industrial accidents. Many of its calls are in Carbon County and the ambulance transports most of its patients to Memorial Hospital of Carbon County.

The ambulance service is part of non-profit corporation called Wamsutter Health Care, Inc. Ambulance vehicles are owned by the city of Wamsutter and leased to the non-profit. Staffing is provided by 14 volunteer EMTs (5 are EMT-Intermediates). The service does not bill for transport and is supported primarily through fund raising and donations. The gas and oil industry has heavily supported the service. Medical direction and EMS training and continuing education are provided by Memorial Hospital of Carbon County. The director states that the service feels a strong loyalty and affinity to Carbon County.

The Wamsutter ambulance service's greatest challenge is finding daytime volunteers. It is creating a plan to form a new corporation which would enable two EMT employees to assist with daytime coverage by creating an operation healthcare clinic that is staffed by a physician's assistant and EMTs that can respond on the ambulance.

The Carbon County EMS-BIS

For the purposes of this report participants were asked to read Emergency Medical Services Agency as EMS in Carbon County. In other words participants were asked consider each benchmark as it related to EMS in the county as a whole and not just an individual ambulance service or agency. The average score is a combination of responses from a variety of county EMS stakeholders and the observations of the assessment team.

EMS System Component: Integration of Health Services

Benchmark 1.0

For its patients and the community as a whole, the Emergency Medical Services (EMS) agency provides care and services that are integrated with other health care providers, community health and public safety resources.

Indicator		SCORING
		Carbon County EMS
1.1	The EMS agency has convened, or participated in a multidisciplinary planning process that describes the role of the agency within the health care and public safety systems serving the community and the region.	There have been limited attempts to organize groups, but to date no ongoing system committees meet regularly to design or implement the local system.
1.2	A clearly defined and easily understood structure is in place for the EMS decision-making process. The EMS operational decisions are based on the system plan and reflect ongoing engagement with multidisciplinary stakeholders and partners to ensure integration of the EMS within the community and the region.	There is no defined process (written policy and procedure) for decision-making.
1.3	There is a process in place to measure the EMS System's progress in meeting goals and objectives in the system plan and that support integration of the agency in the health care and public safety assets in the community (Horizontal integration).	There is an informal or sporadic process that reacts to concerns regarding lack of integration with other health care and public safety resources, e.g. the fire department not called to a hazmat incident.

STS Observations:

Carbon County has no countywide EMS coordination, no master plan for the future provision of EMS, and limited inter-agency communication. The commonality of medical direction and common protocols in four of the ambulance services has provided some movement toward an integrated system. The leadership Memorial Hospital of Carbon

County has taken in EMS education and training provides a base for more integration. The integration of EMS into some of the county health clinics has provided for broad awareness of EMS operations by health care providers. The recent exploration of a joint powers board is a step in the right direction.

STS Recommendations:

1. Create and Empower County EMS Coordinator Position – The job of this position will be coordination, data collection, inter-agency communication, integration with health care, and implementing a comprehensive countywide EMS strategic plan.
2. Form Countywide EMS Council – Form an EMS Council made up of all key stakeholders with the goals of creating a seamless, quality county EMS system that is integrated into the county health care. The proposed Joint Powers Board could transition into this role if other recommendations become a reality.
3. Create Master Plan – The county EMS coordinator and EMS Council should create a master EMS strategic plan for the county that makes Rawlins hospital the focal point for coordinating prehospital clinical care and medical direction in the county. Advanced level ambulance staff should be based in Rawlins and assigned periodic shifts in other areas. This will assure consistent medical director contact and skill maintenance by use of skills in the emergency room.

STS Discussion:

- A. The EMS system plan would emphasize integration of system components and include measurable goals and objectives. These too must be actionable and attainable with a funding mechanism identified to allow the objectives to be met. An EMS plan should address each component and become the blueprint to ensure community appropriate services are delivered and logical improvements are made. For public accountability, the EMS Council should report to the Carbon County Commissioners on general EMS matters at least twice annually with more frequent progress updates as needed.
- B. Rural health clinics operated by Critical Access Hospitals are eligible for cost-based payments through the Medicare program. The expense of integrating paramedics into clinic operations can be partly recovered through clinic financing mechanisms. Rural health clinic reimbursements involve cost reporting which is beyond the scope of this report. The hospital or clinic accountants should be consulted to provide estimates of cost recovery through those programs. Funding of the ambulance staff during non-clinic hours is discussed separately in the finance section of this report.

EMS System Component: Research

Benchmark 2.0

The EMS system agencies participate in and contribute to research efforts that increase the evidence upon which the system design is based.

Indicator		SCORING
		Carbon County EMS
2.1	EMS participants (agencies, facilities, other stakeholders) have sufficient policies to conduct and participate in system research efforts.	The system participants do not conduct or participate in research efforts as no policy exists.
2.2	EMS participants (agencies, facilities, other stakeholders) cooperate to conduct and participate in system research efforts. Research efforts may include collaboration with social scientists, economists, health services researchers, epidemiologists, operations researchers, and other clinical scientists.	System participants do not conduct research.
2.3	EMS participants are integrated with external stakeholders in applying and publishing system design, patient care and specific intervention research.	System participants do not contribute to research projects.

STS Observations:

The term research means different things to different people. The word *research* derives from the French *recherché*, from *recherché*, to search closely where "chercher" means "to search"; its literal meaning is 'to investigate thoroughly'. Research is an active, diligent and systematic process of inquiry in order to discover, interpret or revise facts, events, behaviors, or theories, or to make practical applications with the help of such facts, laws or theories.

As an important field within the healthcare industry, EMS systems benefit greatly from research. In the context of this report, research is intended to be those projects upon which evidence is gathered to improve the EMS system. Such projects can include simple activities such as monitoring response times to more complex projects involving human trials.

STS Recommendations:

1. Carbon County should require that all ambulance services utilize electronic patient data collection. Electronic systems should be certified as gold compliant by the

NEMSIS-TAC.

2. Carbon County should require baseline research reports such as the outcome measures discussed in A below as a condition of providing funding to the ambulance services.
3. Carbon County should require subsidized ambulance services to file run reports electronically into the Wyoming patient care reporting system, once the state system is able to accept them.

STS Discussions:

- A. All 50 states have committed to being participants in the National EMS Information System (NEMSIS). NEMSIS is an effort of the EMS Office at the National Highway Traffic Safety Administration. It includes a standardized data dictionary and transaction standard. The data dictionary contains about 430 elements, some of which are designed to be useful at the local level, some at the regional level, some at the state level, and some at the national level. The national EMS database resides at the NEMSIS Technical Assistance Center (NEMSIS-TAC) in Salt Lake City. One of the functions of NEMSIS-TAC is to certify electronic products as silver or gold compliant.
- B. The North Central EMS Institute (NCEMSI) has developed EMS Outcome Measures in collaboration with several national organizations including the National Association of State EMS Officials and the National Organization of State Offices of Rural Health. These outcome measures are designed to be compliant with the National EMS Information System. The state EMS office should engage the state's NEMSIS system contractor to make data reporting easy to use. There are seven outcome measures with additional points being considered for future implementation:
 - a. Time from symptom onset to 911 call received,
 - b. Time from 911 call received to arrival of EMS at patient's side,
 - c. Appropriate oxygen administration,
 - d. Timeliness of oxygen administration,
 - e. Accuracy of patient care reports, and
 - f. Cardiac patients receiving EKGs, or
 - g. Time to defibrillation
- C. The federal Medicare program is changing the methodology used to for payment of services it purchases. Hospitals, clinics, home health and other services are being transitioned to "Pay for Performance" or "Value Based Purchasing". These payment practices reward healthcare providers for reporting quality measures to the federal government. Hospitals are not required to report quality measures, but failure to do so results in a reduced cost of living adjustment. Medicare is experimenting with physician payment "incentives" for reporting. Industry experts predict that quality

measure reporting will soon become mandatory for government programs and private insurers are following suit. EMS industry participants are hopeful the EMS outcome measures developed by the North Central EMS Institute will be integrated with Medicare's future reimbursement system.

- D. Preparing for this inevitable change before it becomes mandatory, Carbon County will build a stronger EMS system and will be better prepared to receive maximum reimbursement under a pay for performance plan.
- E. The NCEMSI also provides a benchmarking service for EMS agencies to compare EMS operations with their peers. This service compares business processes, such as cost per mile of fleet operation, not clinical processes, and greatly empowers decision makers with more information for everyday EMS management. The ambulance services should be encouraged to participate in the benchmarking project.

EMS System Component: Legislation and Regulation

**Benchmark
3.0**

The EMS agencies are in compliance with all applicable federal, state, and local laws, rules, ordinances, contracts, and/or bylaws.

Indicator		SCORING
		Carbon County EMS
3.1	The EMS agencies are in full compliance with all applicable laws, rules, ordinances, contracts, etc. that govern all aspects of their operation and contains current copies of all relevant policies and required licenses, certifications, insurances, etc.	Although not part of an approved system plan, the agency can demonstrate that it understands some of their required legal, financial, administrative, and/or performance requirements. (e.g. vehicles properly licensed, inspected, and insured)
3.2	The EMS agency makes decisions and operates based upon its EMS plan, internal policies, and the applicable laws, rules, ordinances and contracts that govern their operations.	The decision-making and functioning of the agency are sometimes not in compliance with applicable laws, rules, ordinances, and contracts
3.3	The EMS Agency is reviewed periodically by objective, third-party experts, reviewers, or regulators to ensure that it functions in compliance with and all applicable laws, rules, ordinances, and contracts that govern its operation.	The agency has had episodic, objective reviews of a limited number of specific operational components (e.g. financial audit or equipment inspection).

STS Observations:

The State of Wyoming has a comprehensive EMS systems act and trauma legislation that helps assure adequate oversight of EMS systems. Wyoming has been aggressive in seeking and obtaining federal funds for the EMS system, primarily through the federal Preventive Health and Human Services Block Grants and the Medicare Rural Hospital Flexibility Grant program. Many of these federal funds are passed through to local EMS agencies to support training or equipment and supplies.

According to the Wyoming EMS Office, the ambulance services in Carbon County are in compliance with all state laws and regulations. There are no local ordinances.

STS Recommendations:

1. The Carbon County EMS Council, in collaboration with the Wyoming Office of Emergency Medical Services, should generate standardized notebooks to be used for the safekeeping of all licensing and credentialing documents by the ambulance

services. Each ambulance service should use the county template for safekeeping of their required inspection documentation.

STS Discussions:

- A. Standardized notebooks will speed the process of licensure renewal, assure that all required documents have a “home”, and provide one complete resource for responding to inquiries from the state.

EMS System Component: System Finance

**Benchmark
4.0**

EMS agencies are financially stable organizations with approved budgets that are aligned with the EMS plan and priorities.

Indicator		SCORING
		Carbon County EMS
4.1	Cost, charge, collection and reimbursement data are projected and collected; are compared to (benchmarked) against industry data; and, are used in strategic and budget planning.	Cost, charge, collection, and reimbursement data are collected.
4.2	Budgets are approved and based on historic and projected cost, charge, collection, reimbursement and public/private support data.	Data is collected but reports are not routinely generated that can be used for budget planning.
4.3	Financial resources exist that support the planning, implementation and ongoing management of the administrative and clinical care components of the EMS agency.	Administrative, management and clinical care planning is not conducted.

STS Observations:

Emergency medical services in Carbon County and elsewhere are financed in a variety of ways including patient fees and subsidies. Wyoming Statue Title 39, Chapter 13, Article 104 allows counties to establish special rural health care districts that can levy up to 2 mills and county levies up to 12 mills that can be used for other districts such as hospitals, public health, and social services.

The Baggs, Dixon, and Medicine Bow areas of Carbon County have recently formed rural health districts joining four other Wyoming counties where they already existed. The Green River, Basin, and Buffalo area rural health districts support ambulance services. Carbon County could also establish a rural health district to support EMS countywide, including Wamsutter in Sweetwater County.

A number of states with significant rural geographies such as Minnesota, Nebraska, and Idaho also have taxing districts that support EMS. They often cross geo-political lines, allowing the tax to be levied across the specific geography served. In Minnesota for example, a taxing district is established by one or more cities or counties around the area served by an EMS agency.

When asked what impact an EMS taxing district had for his ambulance service, Assistant

Ambulance Director for Floodwood Ambulance Service in Floodwood, Minnesota, Tom Bertch said, "Ambulance staff could finally stop worrying about money. We now have money for large ticket purchases like ambulances and AEDs." Mr. Bertch helped to pass special legislation specific to his service enabling an EMS taxing district. Floodwood's service specific taxing district was eventually transitioned to the statewide district allowed by state law.

Nebraska state statute 13-303 allows each county to provide emergency medical services as a governmental function and that "Any county board of counties and the governing bodies of cities and villages may pay their cost for such service out of available general funds or may levy a tax for the purpose of providing the service".

In Idaho, Ada County Paramedics receives 70 percent of its revenue from fees charged to patients and service contracts and 30 percent of its revenue from property taxes via a countywide EMS taxing district. Blaine County Administrator (Idaho) Mike McNees said the county's philosophy for funding the ambulance district, which began operations in 1986, is that county taxpayers pay their property taxes to have the ambulance service available, while the individual transport fees go to (users of) the service. Ketchum, Idaho, Mayor Randy Hall said: "We absolutely need this."

The Wyoming Special District Elections Act as found in Title 22 Chapter 29 details the requirements for the formation of a rural health district. In summary, a petition is required to be signed by 25% of the landowners within the area proposed for the district. The petition is then filed with the county commissioners who will schedule a series of public notices and hearings before approving the districts for referendum. The issue is then required to be voted upon by the constituents in the borders of the district, by mail ballot or the next election. The district may not begin collecting levies in the same year that it is formed. The statute also requires districts that cross county borders follow the same process in the other affected counties.

Wyoming law contains many of the same provisions that are found in Minnesota, Nebraska, and Idaho. Of these, only Wyoming and Idaho have requirements for referendum although Idaho's requirement is for specific circumstances. Copies of the Wyoming, Minnesota, Nebraska, and Idaho ambulance taxing district statutes are included as Appendix A.

STS Recommendations:

1. Carbon County should pursue a levy funded rural health special taxing district under Wyoming law to fund EMS.
2. Carbon County should incorporate a county EMS department to integrate the ambulance services into a single county unit as the rural health district entity.
3. Carbon County should fund a countywide medical director position as recommended in Benchmark 6.0.
4. The Carbon County ambulance equipment grant process should be restructured so they become performance based contracts rather than service based grants that include the submission of the reports listed in Benchmark 1.0 to the Carbon County

Commissioners.

5. The ambulance services should exhibit fiscal responsibility by using Wyoming state contracts when they qualify and by purchasing using from national contracts maintained by the North Central EMS Cooperative or others.
6. The Wyoming Legislature should consider adopting ambulance taxing district legislation that specifically enables regional collaboration of existing service providers.

STS Discussions:

- A. EMS funding is needed to assure full-time county employees are available to provide adequate service in Rawlins, Baggs, Wamsutter, Saratoga and Hanna. Volunteers should be maintained in all locations except Rawlins to supplement paid staff. In eastern Carbon County along busy I-80 the need for paid staff to supplement volunteers in Hanna and Saratoga is particularly acute given the number of traffic accidents, the long transport times and the long in-service times during in climate weather. Please see Appendix B for funding reference tables and discussion.
- B. The levy request will require public relations activities to inform constituents of the issues and to generate public support for such a change, so it would be wise to include this strategy in the EMS plan from the start. The county EMS plan, with advanced level services enhancing the existing basic life support services, should drive the development of the county EMS budget. Rather than increasing the general county property tax, this should be in the form of a special rural health taxing district.
- C. The cost of providing full-time services will likely be discussed by system stakeholders. We recommend the EMT-Intermediate (EMT-I) salaries be based on an average EMT-I hourly rate plus benefits at a level that can attract and maintain quality personnel. For discussion purposes we will use an hourly rate of \$17 but this rate may need to be increased in order to compete with other area employment opportunities.

An EMT-I salary rate of \$17 per hour working 8,760 hours (per location) will require \$387,192 ($\$17/\text{hr} + 30\% \text{ benefits cost} \times 8760 \text{ hours} \times 2 \text{ EMT-I}s$) for 24/7 coverage.

- D. The countywide medical director contract will require approximately \$40,000 ($25\% \times \$150,000 + \$2,500 \text{ travel/meetings}$) per year. This is a small investment in a quality EMS system that can be effective and reduce the risk of lawsuits, improve pre-hospital care and integrate medical oversight.
- E. The North Central EMS Cooperative (NCEMSC) is a network of nearly 1,000 ambulance services in 28 states. NCEMSC is a non-profit purchasing cooperative that bids national contracts on behalf of its members, effectively pooling the purchasing power of all 1,000 members together. NCEMSC members currently purchase between \$300,000 and \$500,000 per month in medical supplies alone.

NCEMSC maintains contracts for ambulance vehicles, defibrillators, office supplies, billing services and others. More information is available at <http://www.ncemsc.org>.

- F. The North Central EMS Institute, in collaboration with the University of Nebraska Medical Center, Creighton University, Minnesota Department of Health, and Dalhousie University in Halifax, Nova Scotia, have formed a collaborative called the Community Healthcare and Emergency Cooperative (CHEC). The CHEC is developing a curriculum for a Community Paramedic

The Community Paramedic² is a new type of healthcare provider that will be educated in emergency services, public health, disease management and mental health. The training core will be the Community Health Worker certificate program already in use in Minnesota. This unique effort supports work being done by the International Roundtable on Community Paramedicine (IRCP), another International collaborative. IRCP's mission is to create an internationally standardized second generation of paramedics that are also integrated with the larger healthcare system.

The Community Paramedics will be skilled referral specialists with diverse clinical expertise and the ability to do follow up care with asthmatic and congestive heart failure patients. The curriculum being developed by CHEC is to be simultaneously implemented in Nebraska, Minnesota and Nova Scotia and will be made available to any accredited college or university. The development of a Community Paramedic program in Wyoming will need to include discussion amongst a broad stakeholder group and may require legislative support.

² Internationally, all levels of United States EMTs are called paramedics. The term "Community Paramedic" also applies to EMT-Intermediates.

EMS System Component: Human Resources

**Benchmark
5.0**

The EMS agency has sufficient capacity and ability to recruit, train support, and maintain adequate numbers and an appropriate mix of volunteer and/or paid personnel consistent with its written plan and commensurate with identified needs within the community.

Indicator		SCORING
		Carbon County EMS
5.1	<p>The EMS agency has personnel recruitment and retention policies and programs to maintain adequate numbers of trained and licensed personnel (paid and/or volunteer) to meet performance standards for level of care and response times.</p> <p>Formal personnel policies are reviewed regularly by the EMS agency's governing authority and clearly identify expectations and responsibilities for both the agency and staff.</p>	<p>The agency periodically organizes a program to recruit new staff on an as-needed basis. There are no personnel policies identifying the expectations and responsibilities of the agency or its staff.</p>
5.2	<p>Staff surveys or regular feedback sessions reflect that personnel understand applicable policies and procedures (e.g. schedules, equipment, protective gear, etc.), have access to required and advanced training, have leadership opportunities, and have access to stress management services as needed.</p>	<p>Feedback is informally requested from staff on a limited and/or episodic basis with no commitment towards utilizing the results for positive change.</p>
5.3	<p>The EMS agency is fully staffed; personnel understand policies and their job duties/responsibilities. Staff indicates that they have input into management and operational decisions, and have reasonable access to needed equipment, supplies, training, and support including stress management services as appropriate.</p>	<p>The agency is constantly under-staffed and excessive turnover is an ongoing problem.</p>

STS Observations:

All ambulance services in Carbon County describe having recruitment and retention difficulties however this is a larger problem for those dependent on volunteers. The volunteer organizations describe having the most difficulty in ensuring adequate personnel are available during daytime hours.

There are no formal written recruitment or retention plans. Issues of recruiting new volunteers or retaining experienced volunteers are addressed ad-hoc.

STS Recommendations:

1. The Carbon County EMS Plan development process should include realistic future EMS workforce planning. This means identifying how many volunteer and paid staff will be needed (demand) going forward, the current supply of workers, trends in turnover and strategies for attracting workers into the pipeline. This will be an essential part of a successful EMS system. Outside expert help should be consulted on workforce planning.
2. The workforce plan should identify the critical elements and automatic triggers that determine when a request to start EMT training is made of the state EMS office.
3. The Wyoming Legislature passed an EMT retirement bill. The county EMS Coordinator should be a liaison on behalf of the county ambulance services in working with the state EMS office to implement the program in the county.
4. The volunteer ambulance services should make use of free resources, such as the EMS Recruitment and Retention Manual published by the US Fire Administration (available at <http://www.usfa.fema.gov/downloads/pdf/publications/fa-157.pdf>).
5. The city councils and Carbon County Commissioners should develop community support for volunteers by offering volunteer incentives such as:
 - a. local property tax exemptions,
 - b. municipal service discounts,
 - c. public retirement plans,
 - d. free training,
 - e. paid National Registry exams,
 - f. reimbursed conference travel,
 - g. free clothing (patches, hats, jackets, and T-shirts), and
 - h. paid subscriptions to EMS trade journals.
6. The EMS Council should promote regular ambulance service administration/officer networking opportunities both within Carbon County and neighboring counties.
7. The EMS Council should share standardized personnel policies among ambulance services.
8. The city councils should encourage their city employees to participate as ambulance service members while “on the clock”.

STS Discussions:

- A. Issues of recruitment and retention are not unique to Carbon County. Many EMS organizations across the country describe difficulties in recent years with recruitment and retention. Reliance on community members to volunteer their time and resources can sometimes be a challenge. This can be helped by looking at national recommendations, instituting policies that encourage volunteerism, and

reducing the need for persons to volunteer.

- B. Incorporating lessons learned and best practices, ambulance services can learn from each other. By providing a regular forum to discuss what works and what does not, and by expanding the reach of these discussions beyond Carbon County, administrators can find new and innovative methods to use in their service.

EMS System Component: Medical Direction

**Benchmark
6.0**

The EMS agency has a physician medical director that has received medical director training, been recognized by the state and is actively involved in EMS issues including triage, treatment, and transport, dispatch, quality improvement, education and training.

Indicator		SCORING
		Carbon County
6.1	There is clear-cut responsibility for the EMS agency's medical director including the authority to adopt protocols, to implement a quality improvement system, to restrict the practice of prehospital care providers, and to generally assure medical appropriateness of the EMS system.	There is an agency medical director with a written job description, but with no specific authority. The system medical director has adopted protocols, has implemented a quality improvement program, and is taking steps to improve the medical appropriateness of the system. .
6.2	The EMS agency medical director is actively involved with the development, implementation, and ongoing evaluation of protocols to assure they are congruent with the EMS and hospital system design. These protocols include, but are not limited to, which resources to dispatch (ALS vs. BLS), air-ground coordination, triage, early notification of the medical care facility, pre-arrival instructions, treatment, transport and other procedures necessary to ensure the optimal care of ill and injured patients.	Protocols have been developed in close coordination with the local hospital medical director and are congruent with the local hospital resources.
6.3	The retrospective medical oversight of the EMS agency's protocols for triage, communication, treatment, and transport is accomplished in a timely manner and is closely coordinated with the established quality improvement processes of the local healthcare system.	There is timely retrospective medical oversight of protocols that is coordinated with partners in the local healthcare system (hospitals, dispatch).

STS Observations:

Carbon County is fortunate to have a passionate EMS Medical Director in Duane Abels. Providing Medical Direction and oversight for all ambulances services except Baggs, Abel's hands-on approach to provider development, continuing education, and quality review ensures a high level of prehospital clinical competence and provides credibility and advocacy for the integration of EMS into the county's larger healthcare picture. In Baggs, Dr. Thomas Told provides medical direction. Both physicians provide their services out of passion for EMS, rather than from a planned county structure. There is no plan for ongoing

and engaged medical direction should these physicians chose to leave. Their work is large uncompensated.

Wyoming law requires that all levels of EMT have a physician medical director under whose license the EMT practices. Wyoming is one of the few states in the country that mandates a physician-EMT relationship before an EMT license is granted.

STS Recommendations:

- 1) Carbon County should fund a single part-time EMS physician medical director to provide medical supervision countywide.
- 2) The Carbon County EMS medical director should develop a medical supervision plan.

Even If Recommendations One and Two Are Delayed:

- 3) The Carbon County medical directors should complete the national medical direction course as soon as possible. The roles and expectations of medical directors should be defined in writing, and they should be compensated for providing the service. Further discussion of these points is made below.
- 4) The Carbon County medical directors should have a process in place that allows them to review calls where quality-of-care issues are at stake.
- 5) There should be standardized protocols/guidelines in use county wide in order to assure consistent service to the public as well as consistent skill competency exams, training and equipment
- 6) A standardized medical director's job description should be developed and implemented across the rescue squads.

STS Discussions:

- A. The national EMS medical director's course is offered through the National Association of EMS Physicians (www.naemsp.org)
- B. The EMS medical director should have a written agreement with the EMS agency(s) that includes the following elements:
 1. Identification of the EMS agency(s) for which he provides medical supervision.
 2. Acknowledgement of the authority of the EMS medical director as established in Wyoming statute.
 3. An effective date.
 4. An expiration date or a provision for automatic renewal upon mutual agreement

5. Assurance of EMS medical director access to relevant agency, hospital, or medical clinic records as permitted or required by statute to ensure responsible medical supervision of licensed EMS personnel.
- C. The EMS medical director should have a written agreement with the EMS agency(s) that requires the medical director to:
1. Accept responsibility for the medical direction and medical supervision of the activities provided by licensed EMS personnel.
 2. Obtain and maintain knowledge of the contemporary design and operation of EMS systems.
 3. Obtain and maintain knowledge of Wyoming EMS laws, regulations, and standards manuals.
 4. Meet with the rescue squads at least twice a year.
- D. The EMS medical director should have a written agreement with the EMS agency(s) that authorizes the medical director to:
1. Provide explicit approval for licensed EMS personnel under his supervision to provide medical care. Licensed EMS personnel may not provide medical care without the explicit approval of an EMS medical director.
 2. Credential licensed EMS personnel under his supervision with a scope of practice. This scope of practice may be limited relative to the scope of practice authorized by the Commission but may not exceed the scope of practice established by the Commission.
 3. Restrict the scope of practice of licensed EMS personnel under his supervision and withdraw approval of licensed EMS personnel to provide services when such personnel fail to meet or maintain proficiencies established by the EMS medical director or the Wyoming Office of Emergency Medical Services.
- E. The medical supervision of licensed EMS personnel must be provided in accordance with a documented Medical Supervision Plan (MSP) that includes direct, indirect, on-scene, educational, and proficiency standards components. The EMS medical director is responsible for developing, implementing, and overseeing the MSP. However, non-physicians can assist the EMS medical director with the indirect medical supervision of licensed EMS personnel.

EMS System Component: Education Systems

**Benchmark
7.0**

The EMS provides appropriate, competency based education programs to assure a competent work force.

Indicator		SCORING
		Carbon County EMS
7.1	The EMS agency has clear written educational requirements consistent with state and nationally recognized levels of training and has a structure in place to provide education and maintenance of clinical skills.	The agency has no written policy regarding education and continuing education requirements.
7.2	The EMS provides initial and continuing education programs including periodic testing, consistent with state and nationally recognized levels of care.	The agency provides a comprehensive program of initial and continuing education for its employees consistent with state and nationally recognized levels of care.
7.3	The EMS agency measures the effectiveness of its continuing education program by measuring competency on a regular, consistent basis and bases continuing education and remedial education on structured performance improvement processes.	Clinical or field procedural problems are occasionally addressed in continuing education programs. There is no regular, consistent evaluation of competency.

STS Observations:

Much of the initial EMT training for Carbon County ambulance services is provided by Memorial Hospital of Carbon County. The hospital offers initial EMT and EMT Intermediates advanced module training. The hospital also provides student clinical experiences and ongoing continuing education for county EMS providers.

A challenge for the county is recruiting new students into EMT programs and encouraging current EMTs to take the advanced module training.

STS Recommendations:

- 1) Each ambulance services should maintain a formal process to determine continuing education needs.
- 2) The ambulance service directors should determine needs collaboratively with the medical director and primarily through medical director chart and run reviews, staff surveys, quality improvement projects, competence evaluations and public health interfaces.

- 3) Competence evaluations should be coordinated through Memorial Hospital and conducted at least twice a year. The medical director should temporarily de-credential any staff not evaluated during the previous 18 months.

STS Discussions:

- A. After initial certification, ongoing continuing education should be based on the requirements of state law and on maintaining competence. There is no definitive EMS research on specifically how to apply these principles. Low frequency, high risk, and high frequency, high risk skills should receive more attention than high frequency, low risk and low frequency, low risk skills.
- B. "Skills Fairs" are a popular option for completing competence evaluation. They are particularly successful when completed in a teaching format, using local hospital and area ambulance personnel to supplement the medical director. In some parts of the country, helicopter teams schedule site visits on skill fair day, providing additional expertise for monitoring performance demonstrations.

EMS System Component: Public Education

Benchmark 8.0	The EMS agency informs and educates local constituencies and policy makers to foster collaboration and cooperation for EMS enhancement and injury and/or illness prevention and control.	
Indicator		SCORING
		Carbon County EMS
8.1	A public information and education program exists that heightens public awareness of the need for an EMS and the preventability of injury and/or illness.	There is no written public information and education plan on agency awareness or injury and/or illness prevention and control.
8.2	An assessment of the needs of the general public concerning EMS information has been conducted.	There is no routine or planned contact with the general public.
8.3	The local EMS agency and trauma facilities enjoy strong public support.	There is an ongoing, but inadequate level of funding and community/political support for the local agency.

STS Observations:

Recent pandemic illness planning has provided opportunities for EMS and public health officials to coordinate planning efforts however there is not a coordinated system for providing public education. The local arm of the state’s public health agency is only loosely connected to the ambulance, and there are no targeted efforts between the ambulance services, clinics and hospitals, although individually there may be minor efforts.

STS Recommendations:

- 1) The ambulance services should target community gatherings to launch new public education initiatives.
- 2) The EMS Council should take ownership of the disconnect between the EMS providers and the public health department, to assure the EMS system becomes more integrated and is recognized as a stakeholder in the public health of Carbon County.
- 3) The EMS Council should develop a countywide Public Information, Education and Relations (PIER) plan.
- 4) The EMS Council should include the Outcome Measures (Benchmark 2, STS Discussion B) when determining public education needs.

STS Discussions:

- A. An EMS system provides a number of public health functions but in Carbon County it is disconnected from the public health department.
- B. A PIER plan could identify various appropriate venues, methods, and messages for providing public outreach. This may include events with large crowds such as the county fair, school sporting events and the federal park. If coordinated countywide, then each ambulance service's message will be reinforced by the efforts of the other services. PIER materials are available free from the EMS Office at the National Highway Traffic Safety Administration.
- C. NEMSIS data can be used to identify public training needs, especially those areas identified in the EMS Outcome Measures where the public's use of 9-1-1 is delayed.

EMS System Component: Illness/Injury Prevention

**Benchmark
9.0**

The EMS agency actively supports community wellness and prevention activities.

Indicator		SCORING
		Carbon County EMS
9.1	A written injury/ illness prevention plan is developed and coordinated with other agencies. The injury/illness program is data driven, and targeted programs are developed based on high injury/illness risk areas. Specific goals with measurable objectives are incorporated into the injury/illness prevention plan.	There is no written plan for a coordinated injury/illness prevention program.
9.2	Injury/illness prevention programs use EMS information to develop intervention strategies.	There is no evidence to suggest that agency data are used to determine injury/illness prevention strategies.
9.3	The effect or impact of injury and/or illness prevention programs is evaluated as part of a system performance improvement process.	There is no effort to review the activities of the agency in prevention efforts.

STS Observations:

There is no formal or organized program for injury prevention through Carbon County EMS.

STS Recommendations:

- 1) Ambulance services should conduct public wellness and prevention activities in their communities.
- 2) The public health department should take the lead in engaging the ambulance services in a discussion about the identified wellness and prevention needs from prior or future community surveys.
- 3) Long term wellness and prevention activity planning should be coordinated between the EMS council, the county public health agency.

STS Discussions:

- A. Tactics should be developed based on the community need matched to the ambulance services. Easy programs to implement would include interaction with the public at the county fair, and including prevention messages in patient billings.
- B. Free resources from the National Highway Traffic Safety Administration should be used when possible.

EMS System Component: Public Access

**Benchmark
10.0**

The public has reliable, robust and redundant access to a system that can dispatch appropriate resources promptly and accurately to the location of the patient and provide potential lifesaving services prior to their arrival. Access should be universally available regardless of incident location, socio-economic status, age, or special need and an integral part of the EMS plan.

Indicator		SCORING
		Carbon County EMS
10.1	<p>There is a universal access number for citizens to access the system, with dispatch of appropriate medical resources in accordance with a written plan. The dispatch system utilizes Enhanced-9-1-1 and Wireless-9-1-1 technologies and provide pre-arrival medical instructions to callers</p> <p>The universal access number is part of a central communications system and plan that ensures bidirectional communication, inter-facility dialogue, and disaster communications among all system participants.</p>	<p>The agency has adopted a communications plan that was developed with multiple stakeholder groups, and endorsed by those agencies. However, the integration of Enhanced-9-1-1, Wireless-9-1-1 and other emerging technologies are not included.</p>
10.2	<p>An assessment of the needs of the general public and their ability to access the system has been conducted and the results integrated into the system plan.</p>	<p>There is no routine or planned contact with the general public.</p>
10.3	<p>Unique populations (e.g., language, socially disadvantaged, migrant/transient, remote, rural, and others) present within the EMS response area are able to access the EMS agency system.</p>	<p>There has been no consideration of the needs of unique populations to access patient care within the system.</p>

STS Observations:

9-1-1 calls in Carbon County are routed to a Public Safety Answering Points (PSAP) at the Rawlins Police Department, the Sheriff’s Department communication center, and at the Saratoga Police Department.

Training on pre-arrival dispatch instructions, also known as Emergency Medical Dispatch (EMD), is not routinely provided and is without quality assurance monitoring.

STS Recommendations:

1. The city of Rawlins and the Carbon County Commissioners should require through ordinance or contract that PSAPs in the county use EMD for all calls determined to be medical in nature.

STS Discussions:

- A. A single nationally recognized EMD program should be selected, staff trained, and supplies purchased for implementation across Carbon County. The city and the county may need to increase their subsidy of the communications center.

EMS System Component: Communication Systems

Benchmark 11.0

EMS agencies are able to transmit and receive electronic voice and data signals between its own agency assets (base, vehicles and personnel), between the agency and other community health care and public safety assets, and between the agency and regional/state health care and public safety assets.

Indicator		SCORING
		IFFD
11.1	The EMS agency, in concert with a multidisciplinary, multi-agency committee, multi-jurisdiction committee, has adopted an EMS communications plan that includes provisions for intra-agency, inter-agency, regional and state communications of voice and electronic data.	The agency has adopted a communications plan that was developed with multiple stakeholder groups, and endorsed by those agencies. However, issues of integration and inter-operability have not been fully resolved.
11.2	In accordance with the EMS agency's communication plan, radio and other communication asset purchases and configurations are coordinated with community, sub-regional, regional and statewide agencies.	Needs assessments are conducted and procurement needs are coordinated with other agencies, jurisdictions, and disciplines. However, the results are not used to guide investment in communications infrastructure improvement.
11.3	The communications system is routinely evaluated and tested to ensure its reliability, robustness, redundancy and interoperability during routine applications and all-hazards events involving multiple patients and multiple agency responses.	The communications system has been evaluated at a local level through a multi-agency process and issues of reliability have been addressed by all agencies within the system's primary service response area.

STS Observations:

While some mobile radios were provided to ambulance services in a recent round of federal funding, ambulance personnel lack portable radios. This coupled with limited cell phone coverage represents a significant safety issue for responders and patients.

STS Recommendations:

1. The county EMS Coordinator should be assigned a key interface role between the disparate dispatch centers, the county emergency manager, the county commissioners, and the ambulance services.
2. Portable radios should be made a high priority for the ambulance service staff. Local and county funds and federal and state grant funds should immediately be diverted from lower priority projects to fund the purchase of this critical infrastructure. Resolving the lack of communications equipment should become a performance evaluation criteria for the county emergency manager and the EMS Coordinator.
3. Once established, the EMS council should establish a communications subcommittee to become the forum for all Issues regarding EMS system communications. The EMS Council should develop a communications plan for use by all EMS system participants and coordinate its implementation.

STS Discussions:

- A. Limited first response by the state patrol, sheriff, and fire departments mean that ambulance personnel are often the only responder to what are reported as medical emergencies. Often times what the ambulance personnel find on the scene is completely disconnected from what the dispatcher hears over the telephone. A call for “bleeding” may actually be the result of violence and a “check the welfare” call may result in the ambulance staff managing a mentally disturbed patient. The ability to request more resources in a strained environment is a **critical safety issue** to ambulance personnel. As sole responders unknown situations, the priority of their communications equipment should be equivalent to law enforcement.

EMS System Component: Clinical Care

**Benchmark
12.0**

EMS agencies are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all patients.

Indicator		SCORING
		Carbon County EMS
12.1	The EMS plan has clearly defined the roles and responsibilities of agency personnel and for those emergency department personnel in treatment facilities accepting patients from the prehospital personnel. Evidence based written prehospital patient care protocols and guidelines are maintained and updated.	There is no system plan, but written prehospital patient care protocols and guidelines exist.
12.2	Clinical care is documented in a manner that enables agency and system wide information to be used for quality monitoring and performance improvement.	Clinical care documentation is systematically reviewed at the local level but is not available electronically for quality monitoring and performance improvement.
12.3	Patient outcomes and quality of care are monitored. Deficiencies are recognized and corrective action is implemented. Variations in standards of care are minimized, and improvements are made routinely.	There is no procedure for the agency and local hospital to monitor patient outcome and prehospital quality of care.

STS Observations:

Carbon County appears to provide a high level of prehospital clinical care within its ambulance services. The use of EMT-Intermediates with advance care training creates the possibility of advanced life support care. However, the high level of prehospital clinical care appears to be driven by medical direction rather than by a formal countywide EMS plan. Consequently, there appears to be the possibility of uneven care delivery depending upon the level of training of personnel responding on any given call. Not all volunteers are trained to the same level and it is not clear how many calls are actually managed by EMT-Intermediates with advance care training.

While it appears the current involvement of medical direction provides a significant level of quality assurance through run reviews, chart reviews, and continuing education, there is

not a system-wide quality assurance program to evaluate run reports and assure a match between clinical care and protocols. Currently, medical oversight and direction is shared.

Carbon County has a singled tiered response system in which patients, in most cases, must wait for an ambulance to arrive before care begins. Police, sheriff's deputies, and fire departments are not equipped and prepared as first responders with tools such as oxygen and automated external defibrillators. Long ambulance response times in some areas leave patients without care for significant amounts of time.

STS Recommendations:

- 1) The EMS plan should identify countywide goals for prehospital clinical care. Goals should identify expected levels of care the plan should address the resources and staffing needed to meet those levels. Ensure that all care providers are following universal protocols and create a formal system to evaluate, correct, and improve performance.
- 2) The EMS plan should identify countywide clinical care performance indicators and create a practical and mandatory system-wide clinical evaluation process.
- 3) The Carbon County commissioners should unify medical oversight under a single medical director.
- 4) The Carbon County commissioners should explore the use of existing first response resources by utilizing public safety, fire, other health resources or minimally trained and equipped first responder rescue squads.

STS Discussions:

- A. Carbon County is fortunate to have passionate and active medical directors. However, a plan and process are needed to ensure that clinical quality is more than a product of a specific medical director.
- B. The best clinically performing EMS systems identify clinical performance indicators and expectations for providers. They evaluate those indicators and continually work toward improvement. While the ultimate value of certain clinical modalities is still a subject of research, establishing an evaluation process will bring more continuity to care in Carbon County.
- C. Recent studies indicate successful resuscitation depends on what is done in the first few minutes of the cardiac arrest. Studies throughout the United States have shown value in the placement of law enforcement defibrillators. First response can take on many different forms from the use of public safety. Two-tiered EMS systems take many shapes throughout the world. Some systems use a variety of responders including citizen rescue groups who respond in their own vehicles to provide basic emergency care and support while awaiting the arrival of additional resources.

EMS System Component: Information Systems

Benchmark 13.0

There is an information system within the EMS that can evaluate system performance, track provider skills, and formulate policies based on the analysis of collected data.

Indicator		SCORING
		Carbon County EMS
13.1	The EMS agency participates in a system data collection and information data sharing network, collects pertinent EMS data from field providers on each episode of care, and uses data for system improvements.	There is no routine collection of data or system for agency data collection.
13.2	The information system is available for routine EMS and public health surveillance. It can be accessed by individual users as well as management for system oversight.	There is no information system in place.
13.3	The information system is used to assess system and provider performance, measure compliance with applicable standards/rules and to allocate resources to areas of greatest need or acquire new resources as necessary.	There is no information system in use within the agency.

STS Observations:

Wyoming law requires a trip report form be submitted to the state EMS office for every ambulance call, either a paper form or through an electronic system. Yet, we found in Carbon County that there is no system in place to collect or store EMS data on types of calls, response times, transport times, distances traveled, patient outcomes, crew configuration on calls, provider skill experiences and skill success or workforce issues such as number of hours of coverage volunteers are assuming, number of volunteers needed and numbers of open positions. There is also no countywide data on call location and call time that would allow of informed resource deployment planning. Data on many of these factors should be available through the state EMS office.

STS Recommendations:

- 1) Carbon County EMS should build a simple and practical county EMS data system based on state and national EMS data projects. Seek guidance and tools from expert sources familiar with data collection in rural EMS systems.
- 2) Carbon County EMS should collect clinical data from patient care reports and system data on operational and human resource issues. These include the number of EMS providers needed; where worker shortages exist; how much ongoing initial EMS training is needed to maintain a supply of workers; frequency of

provider/patient contact and skill use; vehicle failures; response, scene and transport times;

- 3) Carbon County EMS should seek assistance in creating a data system from experts and similar rural EMS systems that have effective and practical data collection.
- 4) Carbon County should require ambulance services to use a National EMS Information System Gold Standard Compliant vendor for electronic patient data collection.

STS Discussions:

- A. Data is essential to an efficient and effective EMS system. In our experience when an EMS system formulates a practical data collection strategy and then mandates data collection it begins to quickly identify performance improvement areas.
- B. With the near universal use of computers and the internet it is possible to create data tools and data collection tools that are relatively inexpensive and effective. With the low EMS call volume in Carbon County and the small number of agencies, countywide EMS data can be an achievable goal in the near future.
- C. Much work has been done in the area of EMS system data collection around the world. Carbon County does not need to start from scratch in creating a data collection system.

EMS System Component: Evaluation

Benchmark 14.0	The EMS uses its management information system to facilitate on-going assessment and assurance of system performance and outcomes and provides a basis for continuously improving the EMS.	
Indicator		SCORING
		Carbon County EMS
14.1	The EMS service provider has available for use computer technology advances and analytical tools for monitoring system performance.	There is no routine collection of data or system for agency data collection.
14.2	EMS providers collect patient care and administrative data for each episode of care and provide these data not only to the hospital, but have a mechanism to evaluate the data within their own agency including monitoring trends and identifying outliers.	There is no information system in place.
14.3	The EMS agency engages the medical community in assessing and evaluating EMS agency including participation in EMS research. Findings from research or other quality improvement efforts are translated into improved service.	There is no information system in use within the agency.

STS Observations:

Carbon County lacks a formal EMS system evaluation process. Performance is not link to an EMS plan that identifies a vision, objectives and goals. Strategic planning does not occur at any level and no standardized tools are used.

STS Recommendations:

- 1) The Carbon County EMS Council should identify basic system and agency performance measures and include them in the EMS plan. .
- 2) The Carbon County EMS Council should conduct agency assessments annually.
- 3) The Carbon County EMS Council should seek out and make available to the ambulance services strategic planning specialists interested and experienced in EMS.
- 4) The Carbon County EMS Council should expect delivered reports to show progress over time and eventually reward good performers and penalize poor performers through adjustments of subsidies.

STS Discussions:

- A. As part of the process of this countywide evaluation, we introduced a standardized tool. Ongoing assessment and performance measurement tools do not need to be complicated or difficult. We have observed that system and agency improvement is often a natural result of simply beginning to ask the question of what should be measured and then implementing simple measurement tools.
- B. Measuring performance and strategic planning go hand-in-hand. However the process of strategic planning and agency planning may be difficult in a system with limited experience in planning and limited resources and time. The ambulance services will require technical assistance in developing and maintain strategic planning processes.

EMS System Component: Medical/Health Disasters

**Benchmark
15.0**

The EMS agency’s activities are integrated with, and complementary to, the comprehensive mass casualty plan for natural disasters and manmade disasters, including an all-hazards approach to disaster planning and operations.

Indicator		SCORING
		Carbon County EMS
15.1	The EMS agency has operational plans and has established an ongoing cooperative working relationship with other public safety and public health agencies to assure EMS system readiness to “all-hazard” multiple patient events.	There are plans in place to ensure that the agency, the trauma system, and the disaster system are integrated and operational. Disaster exercises and drills have the cooperation and participation of the trauma system.
15.2	Disaster training and exercises routinely include situations involving natural (e.g., earthquake), unintentional (e.g., school bus crash), and intentional (e.g., terrorist explosion) trauma-producing events that test expanded response capabilities and surge capacity of the EMS consistent with the overall response plan and system.	The agency, trauma, public safety and public health stakeholders have begun training and exercises in an all-hazards approach to disaster situations.
15.3	There are formal mechanisms to activate an optimal response to all-hazard events in accordance with EMS and disaster response plans and consistent with system resources and capabilities.	There are sporadic, informal, non-documented “debriefings” involving multiple agencies following each exercise or event. Results of these activities do not necessarily translate to improvement processes.

STS Observations:

It was not within the scope of this project to perform an assessment of Carbon County’s disaster planning however, some important issues emerged. We learned that Carbon County has performed some disaster planning and exercises and has utilized Homeland Security funds on projects for various county departments and public safety agencies.

However, knowledge of a formal countywide disaster plan, familiarity the county’s emergency management leadership, and familiarity with mutual aid agreements are very limited at the EMS operational level. EMS does not appear to be well integrated into a comprehensive county disaster plan. EMS providers are not consistently familiar with their role in a medical disaster such as pandemic flu or bio-terrorism.

Mutual aid is a term used to describe the process by which one agency can request assistance from another agency, generally when an incident is so large that its own resources become overwhelmed. There are no written mutual aid agreements for the provision of emergency medical services in Carbon County although the potential for needing mutual aid is great. An EMS operational understanding of mutual aid from other counties is absent. For example it was not clear what mutual aid response could be expected from the Laramie Fire Department Ambulance in eastern Carbon County.

To receive federal Homeland Security funding each jurisdiction is required to become "National Incident Management System (NIMS) Compliant" following federal guidelines. First responders in the general sense (police, fire, EMS), elected officials, appointed officials and others are required to complete specific National Incident Management System training as one part of becoming compliant. These basic training programs and materials are provided by the Department of Homeland Security for no cost. While some NIMS training has been performed in Carbon County it unclear if it is fully NIMS compliant. Carbon County's ability to seek federal reimbursement or assistance for any disaster may be compromised by the lack of countywide NIMS training requirements.

STS Recommendations:

- 1) The Carbon County commissioners should ensure that emergency management planning integrates all stakeholders including EMS. These plans should be trained and exercised frequently so that they are understood at an operational level.
- 2) The Carbon County EMS Council should develop a regional EMS mutual aid plan to include signed agreements for agencies both inside and outside the county. Communicated these agreements at an operational level.
- 3) The Carbon County commissioners should ensure the county Emergency Manager assures the provision of ongoing NIMS training for all responders, elected officials, and appointed officials, and report compliance regularly to the county commissioners.
- 4) The county Emergency Manager and health officials should ensure that EMS providers knows their role in a large scale medical or health emergency and is prepared to fulfill that role.

STS Discussions:

- A. Written mutual aid agreements are necessary for several reasons. They provide public assurance that an ambulance will respond, even when local resources are exhausted. They provide a written record of the agreements that have been made. When built into the mutual aid planning process, such agreements provide ambulance service managers with the comfort and knowledge that a plan will be automatically engaged when they are unable to activate it because of managing an emergency or for any other reason.
- B. The county Emergency Manager is the individual with the countywide responsibility to prepare for large-scale emergencies. Through networks commonly available to

emergency managers, frequently facilitated at the state level, this should be a manageable task.

- C. Regular and comprehensive disaster planning and practice not only prepare a county and community for disasters they often assist in building daily operational capability and system cooperation. Planning and practice enables leader, agency managers, and frontline field providers an opportunity to understand the system capability, various weakness and to build the essential relationships that support ongoing EMS system improvement.

Appendix A: State Statute Excerpts**Wyoming Statutes: 35-2-701. Procedure for proposing establishment of special rural health care districts.**

(a, b, c, d) Repealed by Laws 1998, ch. 115, 5.

(e) A special rural health care district may be established under the procedures for petitioning, hearing and election of special districts as set forth in the Special District Elections Act of 1994.

35-2-702. Repealed by Laws 1998, ch. 115, 5.

35-2-703. Body corporate; name and style; powers generally; rules and regulations of trustees.

(a) Each district so established is a body corporate and shall be designated by the name of the rural health care district. The district name shall be entered upon the commissioners' records and shall be selected by the board of county commissioners of the county in which the greater area of land within the district is located. In the name so selected, the district through its governing board may:

- (i) Hold property and be a party to contracts;
- (ii) Sue and be sued;
- (iii) Acquire real and personal property and equipment for rural health care purposes by gift, devise, bequest or purchase;
- (iv) Enter into contracts for the acquisition by purchase or lease of real and personal property and equipment;
- (v) Convey, lease and otherwise dispose of its property for rural health care purposes;
- (vi) Establish sinking funds;
- (vii) Issue bonds for the purchase of real property and improvements and equipment;
- (viii) Make necessary rules and regulations for the proper operation of the district and shall file them with the county clerk for each county in which the district is located;
- (ix) Engage in activities authorized under W.S. 18-8-301 subject to specified requirements and conditions.

35-2-704. Procedure for election of trustees generally; number, compensation and term of trustees.

The district shall be managed and controlled by a board of five (5) trustees who shall serve without compensation. Members of the initial board shall be elected at the formation election to serve until the first regular subsequent director election and until their successors are elected and qualified. At the first regular subsequent director election members shall be elected to staggered terms so that three (3) members are elected for two (2) year terms and two (2) for four (4) year terms. Thereafter, all members shall be elected for terms of four (4) years.

35-2-705. Bond of trustees.

Each trustee of any district, prior to entering upon the duties of office, shall execute and file with the county clerk of the county in which the district, or the greater portion of the area thereof, is located his bond, with one (1) or more sureties, to be approved by the county clerk, running to the state of Wyoming in the penal sum of five thousand dollars (\$5,000.00), conditioned for the faithful performance by the trustee of his official duties and the faithful accounting by him for all funds and property of the district that shall come into his possession or control during his term of office. The premium, if any, on any such bond shall be paid out of the funds of the district. Suit may be brought on a bond by any person, firm or corporation that has sustained loss or damage because of a breach of that bond.

35-2-706, 707. Repealed by Laws 1998, ch. 115, 5.

35-2-708. Administration of finances; assessment and levy of taxes.

(a) The board of trustees shall administer the finances of the district in accordance with W.S. 16-4-101 through 16-4-124.

(b) The assessor shall assess the property of each rural health care district.

(c) The board of county commissioners, at the time of making the levy for county purposes shall levy a tax for that year upon the taxable property in the district in its county for its proportionate share based on assessed valuation of the estimated amount of funds needed by each rural health care district, but in no case shall the tax for the district exceed in any one (1) year the amount of two (2) mills on each dollar of assessed valuation of the property.

35-2-709. Bond issue.

(a) The board of county commissioners at the request of the board of trustees of any rural health care district may submit to the electors of the district the question of whether the board of trustees shall be authorized to issue the bonds of the district in a certain amount, not to exceed two percent (2%) of the assessed value of the taxable property in the district, and bearing a certain rate of interest, not exceeding ten percent (10%) per annum, payable and redeemable at a certain time, not exceeding twenty-five (25) years, for the purchase of real property, for the construction or purchase of improvements and for equipment for rural health care purposes. The question shall be submitted at an election called, conducted, canvassed and returned in the manner provided for bond elections by the Political Subdivision Bond Election Law, W.S. 22-21-101 through 22-21-112.

(b) If the proposal to issue bonds is approved, the board of trustees may issue bonds in such form as the board directs, provided any bonds issued under this article shall be in registered or bearer form and shall otherwise comply with W.S. 16-5-501 through 16-5-504. The board of trustees shall give notice by publication in some newspaper published in the counties in which the district is located of its intention to issue and negotiate the bonds and to invite bidders therefor. In no case shall the bonds be sold for less than their full or par value and the accrued interest thereon at the time of their delivery. The trustees are authorized to reject any bids, and to sell the bonds at private sale, if they deem it for the best interests of the district.

(c) The full faith and credit of each rural health care district is solemnly pledged for the payment of the interest and the redemption of the principal of all bonds which are issued by the district.

(d) The county treasurer where the district's funds are kept may pay out of any monies belonging to the district tax fund, the interest and the principal upon any bonds issued by the district, when due, upon presentation at his office of the proper coupon or bond, which shall show the amount due. Each coupon shall also show the number of the bond to which it belonged, and all bonds and coupons so paid, shall be reported to the district trustees at their first regular meeting thereafter.

22-29-101. Short title.

This chapter may be cited as the "Special District Elections Act of 1994."

22-29-102. Definitions.

(a) As used in this act:

(i) "Director" or "district director" means a voting member of the governing body of a special district, regardless of what title is used in the principal act;

(ii) "Principal act" means the statutes under which a special district listed under W.S. 22-29-103(a) can be formed or is operating;

(iii) "This act" means W.S. 22-29-101 through 22-29-601.

22-29-103. Applicability to special districts; general provisions.

(a) This act applies to the following districts as specified in subsection (b) of this section:

- (i) Special cemetery districts;
- (ii) Conservation districts;
- (iii) Fire protection districts;
- (iv) Flood control districts;
- (v) Hospital districts;
- (vi) Improvement and service districts;
- (vii) Special museum districts;
- (viii) Rural health care districts;**
- (ix) Sanitary and improvement districts;
- (x) Water and sewer districts;
- (xi) Watershed improvement districts;
- (xii) Resort districts;
- (xiii) Other districts as specified by law.

(b) This act specifies requirements pertaining to elections and changes in the organization of the districts listed in subsection (a) of this section where the principal act is silent or unclear. Except as provided by W.S. 22-29-401(b), the specific provisions of a principal act are effective and controlling to the extent they conflict with this act.

(c) If a proposed district crosses county boundaries, then any required filing with a county clerk shall be filed with or certified to the county clerks of the counties affected. Any action required or permitted by this act, a principal act or applicable rules to be undertaken by a county commission or the county commissioners shall be undertaken jointly by the county commissioners for each county involved. In undertaking joint action, each county commissioner's vote shall be weighted in proportion to the number of county commissioners and the population of electors of the district residing within that

commissioner's county. The population of electors shall be determined by the most recent voter registration lists. Any consultation required of the county assessor or county treasurer shall be made jointly by the county assessor or county treasurer of all the affected counties.

(d) If a district is authorized to promulgate rules and regulations or adopt ordinances or bylaws, the district shall file any rules and regulations it promulgates, ordinances or bylaws it adopts and any amendments thereto with the county clerk for each county in which it is located. No rule, regulation, ordinance or bylaw shall be effective unless filed in accordance with this subsection.

(e) All special districts shall file a copy of the document authorizing formation or modification of boundaries, a citation to the law under which it is formed and a copy of an official map or legal description designating the geographical boundaries of the district or the changes to its geographical boundaries with the department of revenue, the county assessor and the county clerk in the county or counties within which the entity is located in accordance with the department's rules adopted pursuant to W.S. 39-11-102(c)(xxiv) regarding tax districts and as follows:

(i) Within ten (10) days after the effective date of formation; and

(ii) Annually, by a date determined by the department, if a special district has changes to its geographical boundaries by enlargement, merger, consolidation, exclusion or dissolution in the preceding year.

(f) The department of revenue in adopting rules implementing the provisions of subsection (e) of this section may accept in lieu of a document authorizing the original formation of a district a statement of the district secretary stating that the document is unavailable together with a map or other description of the current boundaries of the district which allows the department to accurately ascertain the property within the district.

22-29-105. Petitions; number of signatures required; contents of formation petition.

(a) A petition to form a special district shall be signed by not less than twenty-five percent (25%) of the landowners owning at least twenty-five percent (25%) of the assessed valuation of property within the area proposed to be established as a special district in one (1) or more counties or any part of a county, as shown by the assessment records of the property in said area.

22-29-109. County commissioners' action on formation petition.

(a) A petition for formation of a district shall be filed with the county commissioners. Before the petition is filed, the county assessor and the department of revenue shall review, within sixty (60) days of receiving notice of the petition, the boundaries of the proposed district for any conflict, overlap, gap or other boundary issue and make written comments thereon to be submitted with the petition. Further, the petition shall be approved by any agency required by the principal act to approve the petition. If the petition satisfies all requirements of the principal act, the county commissioners shall:

(i) Set a date for a hearing on the petition. The hearing shall be held not less than forty-five (45) days nor more than ninety (90) days after the date the petition is filed;

(ii) The county commissioners shall cause notice of the hearing to be posted in at least three (3) public places and published by two (2) insertions in a newspaper of general circulation in that county or counties in which all or any part of the district is proposed to be

located. The last of the notices shall be published at least ten (10) days prior to the hearing. The notice shall state:

- (A) The purpose for which the district is to be formed;
- (B) The name and boundaries of the proposed district;
- (C) The time and place of the hearing on the petition; and
- (D) That all interested persons may appear and be heard.

(b) Any person may appear at the hearing and shall be heard concerning any and all matters affecting the creation of the district, and a record of the proceedings shall be made and kept as a part of the public records of the board of county commissioners.

(c) At the time stated in the notice, the county commissioners shall hear the petition and determine if the area could be benefited by the formation of the district. It may adjourn the hearing from time to time, but not exceeding four (4) weeks in all unless additional notice is given. The county commissioners may alter the boundaries set forth in the petition to either include or exclude territory. In determining the boundaries of the proposed district, the board shall consider the benefit the proposed district will have within the territory in or out of the proposed district. The commissioners shall not modify the boundaries so as to exclude from the proposed district any land which could be benefited by its formation, nor shall there be included any land which will not, in the judgment of the board, be benefited. In no event shall property which may be subject to a district assessment be included in the boundaries of a district if the owner of the assessed property is precluded by applicable state or federal law, rule or regulation from using the services provided by the formation of the district.

(d) If the county commissioners determine, after consultation with the county assessor, that any land has been improperly omitted from the proposed district and that the owner has not appeared at the hearing, the commissioners shall continue the hearing and shall order notice given to the nonappearing owner requiring the owner to appear before it and show cause, if any, why the land of the owner should not be included in the proposed district. The notice shall be given either by posting and publication, in the same manner as notice of the original hearing and for the same period, or by personal service on each nonappearing owner. If notice is given by personal service, service shall be made at least ten (10) days prior to the date fixed for the further hearing.

(e) If within thirty (30) days after adjournment of the hearing, written protests, signed by the owners of at least thirty-five percent (35%) of assessed valuation of property included in the proposed district, are presented to the board of county commissioners, the proposal and the district shall fail.

(f) If the county commissioners approve the petition for formation, as presented or as modified, the county commissioners shall enter an order declaring its approval. The order shall set forth the name of the proposed district and a description of the boundaries. Upon the entering of this order, the commissioners shall direct that the question of formation of the district and the election of the initial directors be submitted to the electors of the proposed district to be held in their respective counties by mail ballot or on the next election date authorized under W.S. 22-21-103 which is at least sixty (60) days after the expiration of the thirty (30) day period described in subsection (e) of this section.

(g) Any errors or changes on the map or in the legal description shall be corrected, and the corrected version shall be displayed at the polls on election day or included in

each mail ballot package. The map shall be developed after consultation with the county assessor for each affected county to ensure accuracy.

Minnesota Statutes 144F

144F.01 EMERGENCY MEDICAL SERVICES SPECIAL TAXING DISTRICTS.

Subdivision 1. Political subdivision defined. In this section, "political subdivision" means a county, a statutory or home rule charter city, or a township organized to provide town government.

Subd. 2. Who may establish. Two or more political subdivisions, or parts of them, may establish by resolution of their governing bodies a special taxing district for emergency medical services. The participating territory of a participating political subdivision need not abut any other participating territory to be in the special taxing district.

Subd. 3. Board. The special taxing district under this section is governed by a board made up initially of representatives of each participating political subdivision in the proportions set out in the establishing resolution, subject to change as provided in the district's charter, if any, or in the district's bylaws. Each participant's representative serves at the pleasure of that participant's governing body.

Subd. 4. Property tax levy authority. The district's board may levy a tax on the taxable real and personal property in the district. The ad valorem tax levy may not exceed 0.048 percent of the taxable market value of the district or \$400,000, whichever is less. The proceeds of the levy must be used as provided in subdivision 5. The board shall certify the levy at the times as provided under section 275.07. The board shall provide the county with whatever information is necessary to identify the property that is located within the district. If the boundaries include a part of a parcel, the entire parcel shall be included in the district. The county auditors must spread, collect, and distribute the proceeds of the tax at the same time and in the same manner as provided by law for all other property taxes.

Subd. 5. Use of levy proceeds. The proceeds of property taxes levied under this section must be used to support the providing of out-of-hospital emergency medical services including, but not limited to, first responder or rescue squads recognized by the district, ambulance services licensed under chapter 144E and recognized by the district, medical control functions set out in chapter 144E, communications equipment and systems, and programs of regional emergency medical services authorized by regional boards described in section 144E.52.

Subd. 6. Advisory committee. A special taxing district board under this section must have an advisory committee to advise the board on issues involving emergency medical services and EMS communications. The committee's membership must be comprised of representatives of first responders, ambulance services, ambulance medical directors, and EMS communication experts.

The advisory committee members serve at the pleasure of the appointing board.

Subd. 7. Powers. (a) In addition to authority expressly granted in this section, a special taxing district under this section may exercise any power that may be exercised by any of

its participating political subdivisions, except that the board may not incur debt. The special taxing district may only use the power to do what is necessary or reasonable to support the services set out in subdivision 5.

(b) Notwithstanding paragraph (a), the district may only levy the taxes authorized in this section.

Subd. 8. Additions and withdrawals. (a) Additional eligible political subdivisions may be added to a special taxing district under this section as provided by the board of the district and agreed to in a resolution of the governing body of the political subdivision proposed to be added.

(b) A political subdivision may withdraw from a special taxing district under this section by resolution of its governing body. The political subdivision must notify the board of the special taxing district of the withdrawal by providing a copy of the resolution at least one year in advance of the proposed withdrawal. The taxable property of the withdrawing member is subject to the property tax levy under subdivision 4 for the taxes payable year following the notice of the withdrawal, unless the board and the withdrawing member agree otherwise by action of their governing bodies.

(c) Notwithstanding subdivision 2, if the district is comprised of only two political subdivisions and one of the political subdivisions withdraws, the district can continue to exist.

Subd. 9. Dissolution. If the special taxing district is dissolved, the assets and liabilities may be assigned to a successor entity, if any, or otherwise disposed of for public purposes as provided by law.

Subd. 10. Reports. On or before March 15, 2005, and March 15, 2007, the special taxing district shall submit a levy and expenditure report to the commissioner of revenue and to the chairs of the house and senate committees with jurisdiction over taxes. Each report must include the amount of the district's levies for taxes payable for each of the two previous years and its actual expenditures of those revenues. Expenditures must be reported by general service category, as listed in subdivision 5, and include a separate category for administrative expenses.

Nebraska Statute 13-303 Counties, cities, and villages; contract; agreement; hearing; notice; cost; levy; fee.

The county boards of counties and the governing bodies of cities and villages may establish an emergency medical service, including the provision of scheduled and unscheduled ambulance service, as a governmental service either within or without the county or municipality, as the case may be. The county board or governing body may contract with any city, person, firm, or corporation licensed as an emergency medical service for emergency medical care by out-of-hospital emergency care providers. Each may enter into an agreement with the other under the Interlocal Cooperation Act or Joint Public Agency Act for the purpose of establishing an emergency medical service or may

provide a separate service for itself. Public funds may be expended therefor, and a reasonable service fee may be charged to the user.

Before any such service is established under the authority of this section, the county board or the governing bodies of cities and villages shall hold a public hearing after giving at least ten days' notice thereof, which notice shall include a brief summary of the general plan for establishing such service, including an estimate of the initial cost and the possible continuing cost of operating such service. If the board or governing body after such hearing determines that an emergency medical service for emergency medical care by out-of-hospital emergency care providers is needed, it may proceed as authorized in this section.

The authority granted in this section shall be cumulative and supplementary to any existing powers heretofore granted. Any county board of counties and the governing bodies of cities and villages may pay their cost for such service out of available general funds or may levy a tax for the purpose of providing the service, which levy shall be in addition to all other taxes and shall be in addition to restrictions on the levy of taxes provided by statute, except that when a fire district provides the service the county shall pay the cost for the county service by levying a tax on that property not in a fire district providing the service. The levy shall be subject to section 77-3443.

Appendix B: Financial Tables For Discussion

The following table of valuations is based on 2007 data provided by the Sweetwater and Carbon County assessors offices. The 2008 data was not available for this report.

We have recommended that full-time EMS providers be located in Rawlins, Baggs, Hanna, Saratoga, and Wamsutter. The following table illustrates the value of a 2.00 mill if applied throughout the county and the town of Wamsutter. Clearly, the bulk of county property taxes are not generated in the townships with 94% (\$1.67 million) coming from unincorporated areas. The contributions to revenue in 2007 were:

Area	2007 Valuation	Value of 2.00 mills
City of Rawlins	\$ 40,026,026	\$ 80,052
Town of Baggs	\$ 1,740,673	\$ 3,481
Town of Hanna	\$ 3,051,842	\$ 6,103
Town of Medicine Bow	\$ 791,595.00	\$ 1,583
Town of Saratoga	\$ 11,169,625	\$ 22,339
Subtotals		
Carbon County	\$ 891,998,340	\$1,783,997
Town of Wamsutter	\$ 1,804,230	\$ 3,608
Total		\$ 1,787,605

To determine an appropriate proration of overhead administrative expenses to provide equitable distribution across entities in two counties, we divided 100 by the number of towns to be served.

The expenses for medical direction are presumed at \$40,000 while essential costs for establishing the district, legal fees, travel in Carbon and Sweetwater counties, and coordination are presumed to be at least \$10,000. A full-time district EMS director or coordinator will be necessary to oversee or coordinate each of these locations and the approximately 25 total employees required to provide these services. The cost of this position is included at the simple rate of \$50,000 per year. These total \$100,000 for the district.

The staffing cost for the provision of 24/7 EMT-Intermediates in each town is calculated based on an hourly pay rate of \$17. This may need to be increased after local discussion of the entire report.

We recognize that this is a conservative calculation and recommend it be recalculated once the details of district operations have been determined. The final tally of \$1,985,960 does not include startup costs, new buildings, uniforms, training, fuel, or vehicles that may

be required. These one-time and periodic costs should be included for district budgeting purposes. These are listed in the following table.

Area	Staffing	Admin \$	Total \$
City of Rawlins	\$387,192	\$ 20,000	\$407,192
Town of Baggs	\$387,192	\$ 20,000	\$407,192
Town of Hanna	\$387,192	\$ 20,000	\$407,192
Town of Saratoga	\$387,192	\$ 20,000	\$407,192
Subtotals			
Town of Wamsutter	\$387,192	\$ 20,000	\$407,192
Carbon County	\$1,548,768	\$ 80,000	\$ 1,628,768
Totals	\$ 1,935,960	\$ 1000,000	\$ 2,035,960

To provide EMS services across Wamsutter and Carbon County the EMTs need to be positioned to minimize their response times for the majority of calls. These locations have been determined without regard for where the levy is actually generated. The following table therefore describes the distribution of services (as funded) based on the area needs rather than their ability to contribute to funding. The billing revenue is estimated based on the call volumes provided during our assessment and applying conservative payment rates.

Area	Levy Share %	Levy Share \$	Billing Revenue \$	FT Staff Cost \$	Fund Balance \$
City of Rawlins	9%	\$ 160,884	\$ 285,000	\$407,192	\$ 38,962
Town of Baggs	24%	\$ 429,025	\$ 25,900	\$407,192	\$ 47,733
Town of Hanna	23%	\$ 411,149	\$ 48,100	\$407,192	\$ 52,057
Town of Saratoga	23%	\$ 411,149	\$ 51,745	\$407,192	\$ 55,702
Subtotals					
Town of Wamsutter	21%	\$ 375,397	\$ 39,908	\$407,192	\$ 8,113
Carbon County	79%	\$ 1,430,084	\$ 410,745	\$ 1,628,768	\$ 252,061
Totals	100%	\$1,787,605	\$ 450,653	\$ 2,035,960	\$202,298

A detailed financial analysis was not within the scope of this assessment, so these figures should be considered as estimates rather than projections. We believe it is within the areas financial means to support a multi-jurisdictional rural health district that functions to provide emergency medical services. Using conservative estimates, the district could net as much as \$200,000 per year that should be reinvested in the EMS service.