

SafeTechSolutions

Final Report

ASSESSMENT OF EMERGENCY MEDICAL SERVICES IN SUBLETTE COUNTY, WYOMING

June 2016



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Executive Summary

SafeTech Solutions spent three months in the spring and summer of 2016 studying the EMS system in Sublette County, Wyoming. This study focused on the long-term sustainability and reliability of Sublette County EMS. The study included a site visit; approximately 20 interviews with key stakeholders; extensive research about Sublette County, the Sublette County Rural Health Care District and its EMS system; thorough analysis of Wyoming Ambulance Trip Reporting System data; and scrutiny of the financial and operational data for Sublette County EMS.

Based on its study and observations, SafeTech Solutions offers the following recommendations to Sublette County, Sublette County Rural Health Care District, and Sublette County EMS:

1. Create a vision and plan for EMS success and sustainability that includes the following elements:

- A description of the level, quantity and quality of EMS needed, wanted and fundable.
- Prioritization of EMS above other local medical offerings.
- A powerful and reassuring story to tell about EMS.
- Maximization of the use of ground-based EMS.

2. Strengthen the EMS organizational structure and leadership team to support sustainability by:

- Clarifying the EMS reporting structure for EMS within the health care district.
- Investing in the EMS leadership team's knowledge of EMS operations and finance and exposure to best practices.
- Ensuring the leadership team is committed to the organization and its future.

3. Strengthen operational and financial efficiency by narrowing the gap between expenses and revenues by:

- Reducing the number of deployed resources to match anticipated call volume.
- Developing and implementing a new call schedule that reduces overtime and is safe and humane.
- Raising revenue by increasing billing rates, capturing lost revenue and ensuring all patients are transported to a hospital.
- Developing a capital vehicle replacement plan.
- Using air medical resources efficiently.

4. Use data to drive decisions by:

- Ensuring that essential data is reliable, complete, and consistent with other data sources, such as WATRS, billing, and the local communication center.
- Developing a dashboard that includes key performance indicators critical for success.
- Regularly measuring employee engagement.

5. Continue to develop healthcare integration by:

- Exploring ways to expand the use of EMS into non-911 services with the goal of creating a truly integrated care model.

Recommendations are based on the following key observations.

1. EMS is a vital and essential element of healthcare and quality of life in Sublette County.

2. As operating today, Sublette County EMS is not sustainable.

3. Sublette County EMS possesses many elements of a progressive and sustainable rural EMS system.

- 3A. Both the health care district and EMS department have capable leaders.
- 3B. The EMS Director has good business and people-management skills.
- 3C. The EMS system is implementing dynamic deployment strategies.
- 3D. The EMS system provides a high level of quality clinical care.
- 3E. EMS is adequately integrated into the local healthcare system.
- 3F. Sublette County EMS has a knowledgeable and competent billing department.

4. Sublette County EMS faces major challenges associated with the local economy and its position within the health care district.

- 4A. Sublette County anticipates sharp reductions in tax revenues.
- 4B. EMS will be affected by changes within the health care district.
- 4C. Perceptions about the health care district may hurt EMS.
- 4D. Sublette County EMS lacks a clear vision and strategic plan.

5. Sublette County EMS lacks clarity with regard to its structure, leadership, workforce and data gathering.

- 5A. The health care district reporting structure needs clarification.
- 5B. Departmental job definitions and reporting structure are weak.
- 5C. The current EMS leader does not have deep operational and financial experience in EMS.
- 5D. EMS employee engagement is precarious.

6. Sublette County EMS is not operating efficiently nor maximizing its revenue from patient billing, and it may have little or no incentive to do so.

- 6A. The current scheduling system is not efficient.
- 6B. The EMS system has too many resources for its call volume.
- 6C. Billing rates for patient transports are too low.
- 6D. EMS is losing potential revenue by transporting patients to district clinics.
- 6E. EMS does not have a capital replacement plan.
- 6F. The frequent use of air medical resources may not be clinically necessary or operationally efficient.

- 6G. The ongoing health care district subsidy of the EMS service might serve as a disincentive for improved organizational efficiency and revenue maximization.

7. Sublette County EMS is failing to do an adequate job of collecting data and analyzing information about its EMS system.

- 7A. Sublette County EMS does not have basic call data, and the data that it does have is at odds with state-reported data.
- 7B. Sublette County EMS does not have defined key performance indicators (KPIs).
- 7C. Sublette County has no formal or informal process for measuring EMS employee engagement.
- 7D. Sublette County has no formal measurement of EMS customer satisfaction.

I. Introduction & Assessment Methodology

Like many rural counties in America, Sublette County, Wyoming, faces growing challenges in meeting its out-of-hospital emergency medical care needs. The awareness of these challenges and the desire to overcome them led Sublette County Rural Health Care District to file an application with the Wyoming Office of EMS and Trauma for grant money to fund an assessment of EMS in Sublette County. SafeTech Solutions, LLP, was contracted to conduct the assessment.

SafeTech Solutions is an EMS consulting firm with extensive expertise evaluating EMS organizations and assisting in the development of rural ambulance services and systems. SafeTech Solutions has worked with rural Wyoming EMS agencies through its EMS Leadership Academy and in assessments in Sweetwater, Fremont, Campbell and Carbon Counties.

The goals of the Sublette County assessment project are to:

- Evaluate the sustainability, reliability and long-term survivability of EMS in the county, including the current structure and operations of Sublette County EMS;
- Validate system components that are working well; and
- Make recommendations for change and improvement, as needed.

The assessment focuses on local needs, current operations, system design and available supporting resources with an eye on sustainability. The scope of the assessment is limited and was not an audit of operations, finances or clinical performance. Air medical service is not part of the assessment.

Methodology

SafeTech Solutions' assessment team used a process of inquiry and investigation that capitalizes on the firm's extensive understanding of rural EMS systems. Its principals gathered quantitative and qualitative data through research, site visits, and interviews. SafeTech Solutions consultants visited Sublette County to review documents and data, conduct interviews and assess operations. In addition to evaluating the ambulance organization (organizational structure, leadership and operations), SafeTech Solutions paid special attention to the social, economic, demographic, cultural and political issues in Sublette County, carefully analyzing data and making recommendations based on industry best practices, as well as what is practical and doable in Sublette County.

This report summarizes the findings, key observations and recommendations for EMS in Sublette County.

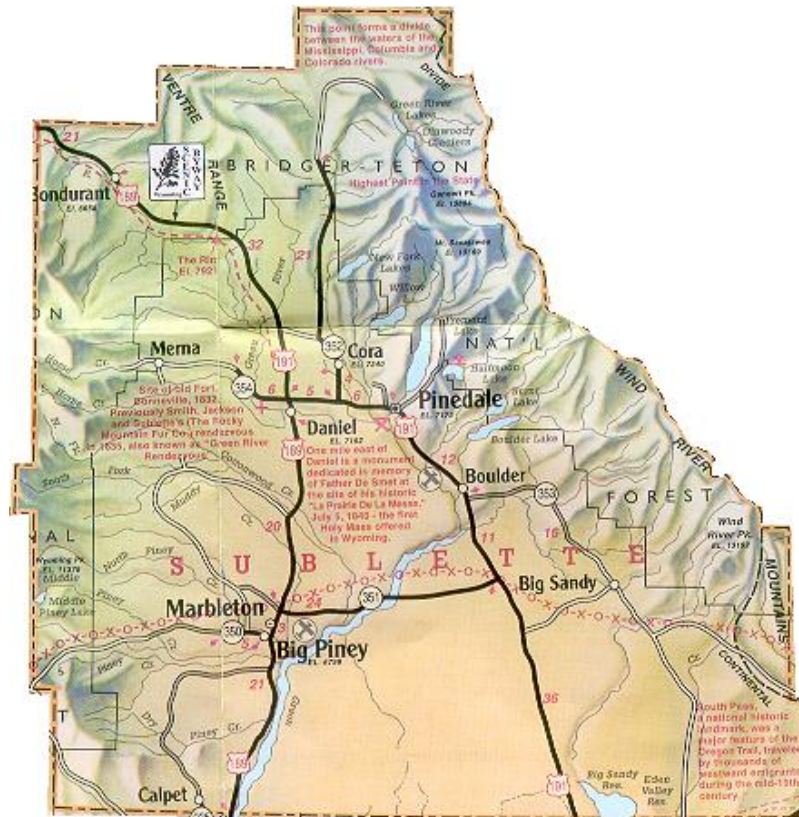
II. Overview of Sublette County

Sublette County covers 3.2 million acres in western Wyoming. Of 23 counties in the state, Sublette County ranks sixth in geographical size. The Wind River Range runs north to south along the eastern portion of the County, the Gros Ventre Wilderness lies to the north, and the Wyoming Range runs along the western side. The central portion of the county is a valley comprised of a sagebrush steppe eco-region. Elevation ranges from 6,280 feet in the valley to 13,400 feet in the Wind River Range. The county has more than 1,300 lakes.¹

Geographically isolated from railroads and population centers, Sublette County retained its frontier culture for far longer than many areas of Wyoming and the West. It was not incorporated until 1921, making it the newest county in the state, and it has remained one of the least densely populated areas in the state well into the 20th century. Even today, 80 percent of Sublette County land is publicly owned.

Sublette County has experienced dramatic growth since 2000 due to energy development. The county's population increased from fewer than 6,000 residents in 2000 to more than 10,000 residents in 2013. Population growth since 2000 (68 percent) was four times the growth rate for Wyoming (18 percent) and six times the growth rate for the U.S. (12 percent). Most of the increase in population occurred from 2002 through 2009 when population increased at an average annual rate of 7 percent per year. Since 2009, the population has plateaued at around 10,000 residents, reflecting a slowdown in energy development in the county.²

Sublette County has three incorporated towns: Big Piney, Marbleton and Pinedale. Smaller unincorporated communities include Bondurant, Cora, Boulder and Daniel. Pinedale is the county seat.³ Nearly 60 percent of residents live in rural parts of the county. The other half



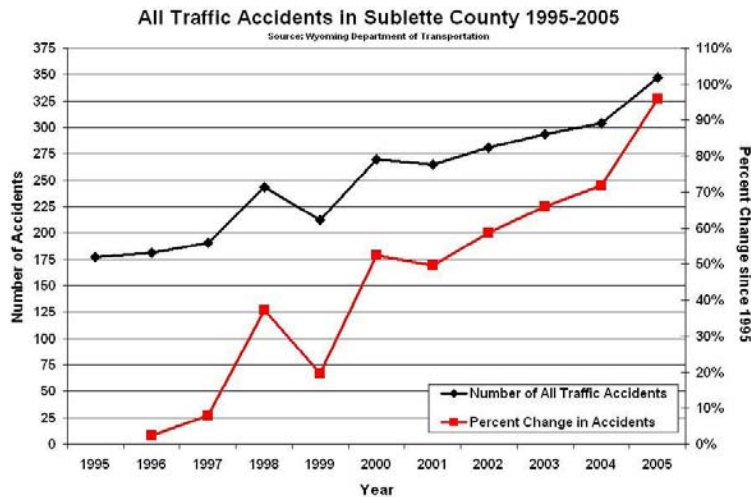
¹ Sublettewyo.com

² *A Sublette County Profile: Socioeconomics* by the Sublette County Board of County Commissioners, 2015.

³ *ibid*

live in Pinedale (25 percent), Marbleton (12 percent) and Big Piney (6 percent).⁴ In addition to its permanent residents, Sublette County hosts transient workers who come to the area for employment, primarily in the oil and gas industry. As many as 2,000 non-resident workers (primarily men) are in the county at any given time, depending on the level of gas field activity.⁵

Several highways pass through Sublette County, including US 191, which runs north-south through Pinedale en route to Grand Tetons National Park, and US 189, which takes traffic through Big Piney, Marbleton and Daniel. According to the county, traffic increased by 60 percent or more between 1995 and 2005 everywhere in Sublette County, except for the Rim on Highway 189/191, which was up about 20 percent. Big truck traffic also showed significant increases in and around all the towns, as well as on Highway 351, and US 191 between Sand Draw and Farson. Not surprisingly, traffic accidents also increased in Sublette County during this time.⁶



<http://sublette-se.org/images/accidentws2.JPG>

9/21/2009

Economy

Sublette County has a boom-bust economy due in large part to its mineral resources, most notably the Jonah and Pinedale Anticline natural gas fields. The most recent boom began about 1999-2000 and fueled jobs, growth and inflation for about eight years. It pumped large amounts of money into the local economy that allowed residents to build new schools

⁴ Sublettewyo.com

⁵ ibid

⁶ ibid

and outfit classrooms with new computers.⁷ It drove the construction of new homes, hotels and restaurants. During the boom, wages were high and unemployment was low.

The boom peaked in October 2008 with an all-time high of 67 natural gas rigs in operation. Less than a year later, however, in May 2009, the number of drilling rigs in the county had dropped to 30.⁸ The sharp decrease was caused by a 70 percent decline in natural gas prices brought on by weakened demand in the face of a global economic downturn. The decline in natural gas production has continued in recent years. Baker Hughes, which tracks rotary rigs by state, reports that as of April 2016, only nine rigs are operating in the entire state of Wyoming, compared with 25 one year earlier.⁹

People

Sublette County is home to some 10,000 permanent residents, according to the US Census Bureau. This number represents an increase of 68 percent in less than a decade, which is more than four times the population growth rate for the state and six times the growth rate for the US.¹⁰ The reason for the increase is largely attributable to the natural gas industry.

According to the county, the number of active drilling rigs in Sublette County has had a direct and immediate effect on the workforce population. At any given time, each drilling rig requires a direct workforce of about 22 people, the vast majority of whom are non-residents of the area. When the weekly rotations of the workforce are tallied, about 44 different individuals are dedicated to each rig. Scores of additional workers are also needed to provide support and services to the rigs.¹¹ Since 2009, the county population plateaued at around 10,000 residents, reflecting a slowdown in energy development in the county.¹²

Most residents are white, employed and earn a wage above the state average. The 2015 Wyoming County Profile reported median earnings for full-time male workers to be \$67,390 (\$38,517 for females). Most residents are employed in the private sector, with the gas/oil and mining/quarrying industries accounting for the highest percentage of employees in recent years.¹³

Along with the boom also came crime. The county reports, "Sublette County enjoyed a moderate to low crime rate, usually below the Wyoming average. However, with the advent of oil and gas development, crime rates and arrests made within Sublette County have soared." Sublette County had the highest crime rate in the state in 2005, eclipsing the metropolitan counties of Natrona and Laramie.¹⁴

⁷ Talk of the Nation, Feb. 11, 2013

⁸ sublettewyo.com

⁹ Baker Hughes monthly rig report for April 2016

¹⁰ Sublette County Profile: Socioeconomics by the Sublette County Board of County Commissioners, August 2015

¹¹ sublettewyo.com

¹² ibid

¹³ Sublette County Profile by the Wyoming Department of Information and Administration, 2015.

¹⁴ Sublettewyo.com

Healthcare in Sublette County

University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation each year publish health rankings that shed light on the health and wellness of resident populations by county throughout the United States. The annual County Health Rankings measure vital health factors, including high school graduation rates, obesity, smoking, unemployment, access to healthy foods, the quality of air and water, income, and teen births in nearly every county in America. Experts compile the rankings using county-level measures from a variety of national data sources.

The *2015 County Health Rankings* report suggests that the health of Sublette County residents is very good compared to the rest of the state. Fewer than 15 percent of adult residents smoke, compared to 20 percent statewide. Adult obesity is 21 percent, compared to 27 percent statewide. Preventive care such as mammography and diabetes screening also ranks high. The only factors in which Sublette County scored poorly are alcohol-impaired driving deaths, long commutes and poor quality of drinking water.¹⁵

Sublette County Healthcare Resources

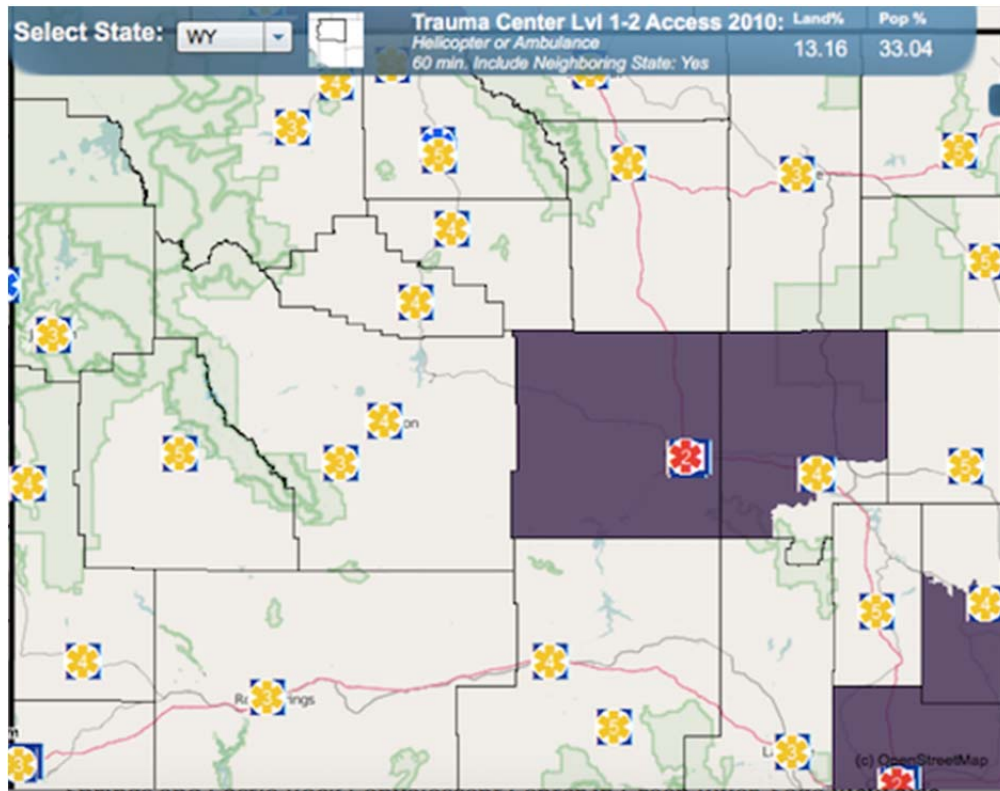
Sublette County residents obtain basic medical care at two area clinics, one in Pinedale and the other in Big Piney/Marbleton. Both are overseen and operated by Sublette County Rural Health Care District, a countywide elected board of five non-partisan members. The health care district took over operation of the Marbleton clinic in May 2005 and the Pinedale clinic in July 2006. Both clinics have been rebuilt in recent years using county funds (Pinedale in 2007, Marbleton in 2009). There is no hospital in the county; however, discussions are ongoing regarding converting the Pinedale clinic to a Critical Access Hospital (CAH). This conversion would have an impact on EMS.

Out-of-County Healthcare Resources

Patients that require more acute care than that which can be provided in Sublette County are transported by ground or air ambulance to St. John's Medical Center in Jackson (76 miles); Eastern Idaho Regional Medical Center, a Level II Trauma Center (158 miles); Memorial Hospital in Rock Springs (103 miles); South Lincoln Medical Center, a Critical Access Hospital in Kemmerer (56 miles); and to the hospital at University of Utah, a Level One Trauma Center, in Salt Lake City (250 miles).

¹⁵ County Health Rankings, 2016

Federally Designated Trauma Centers in Wyoming



III. Overview of the EMS System in Sublette County

Emergency medical care in Sublette County includes a 911 emergency medical call system, emergency medical dispatch, first response, ground ambulance, air medical transport, medical oversight and quality assurance. The system works through the coordinated efforts of a variety of agencies that includes Sublette County Rural Health Care District, Sublette County EMS, Sublette County Sheriff's office and 911 Communications Center, Sublette County Unified Fire, Wyoming Highway Patrol, Tip Top Search and Rescue, Sublette County Emergency Management, and a variety of out-of-county air medical services. Although the county has two modern healthcare clinics that often operate like stand-alone emergency rooms, there is no hospital in Sublette County.

The number of requests for emergency medical response in Sublette County is unknown, as county EMS officials disagree with the way in which data is reported to the state EMS data registry (WATRS).¹⁶ SafeTech Solutions estimates total call volume in Sublette County to be about 600 annually, based on a reported 491 billable patient transports in 2015 (transports typically occur on 80 percent of calls). Requests for service appear to be down from previous years. Volume in past years was reportedly as high as 766 (2011).

2015 EMS Volume (estimated)

- Ground ambulance responses: 589
- Air medical transports: unknown (no verifiable data source available)
- Search and rescue requests: 18-24

Communications & Dispatch

Calls for out-of-hospital emergency medical care are received by Sublette County Sheriff's Office 911 Communications Center. The Communications Center answers about 10,000 calls per year. Of these, fewer than 600 require EMS response. The center is modern and up-to-date, with a new CAD system, CRT radio system, and has AVL monitoring capability. The center is staffed by dispatchers trained in Emergency Medical Dispatch and prepared to provide pre-arrival instructions. EMS and the Communications Center have recently added Active 911 capabilities.

¹⁶ It is difficult to assess Sublette County EMS's call volume because of how data is collected. In 2015 WATRS (the state EMS data collection system) reports 816 total calls. Sublette County EMS believes this number is unreliable due to some responses being entered into WATRS multiple times. For example, a patient who is transported from home to the healthcare clinic and then from the clinic to a hospital, such as in Jackson, would be entered into WATRS twice, but would only account for one billable transport. The most reliable data available was the billing department's data for total billed transports during a given period. SafeTech Solutions increased this number by 20 percent to account for responses in which a patient was not transported (the 20 percent non-transport number is common across the nation).

Calls for emergency medical assistance are toned out simultaneously to first responders and Sublette County EMS. There are base radios in two EMS stations, located in Big Piney/Marbleton and Pinedale. Responders use in-vehicle and handheld radios as well as cell phones to stay in contact during calls. Responders report moderately good reception throughout the county, but occasionally are in locations where there is no reception.

Sublette County EMS is dispatched via radio system and pagers. The system is part of WYOLINK, the statewide digital trunked VHF P-25 compliant public safety communications system designed to coordinate and integrate communications among state, local and federal public safety agencies. Communication technology between the dispatch center and ambulance crews appears sufficient, with no problems reported. There is no direct cost to Sublette County EMS for the dispatch service. The dispatch and communication system is funded through a combination of 911 surcharge dollars and resources from the county general fund.

First Response & Co-Response

First response in Sublette County is provided by a variety of agencies, including Sublette County Sheriff's Department, Wyoming State Patrol, Sublette County Unified Fire, and Tip Top Search and Rescue. Sheriff's deputies co-respond with Sublette County EMS to a majority of 911 emergency medical calls. Sublette County Unified Fire Department co-responds with EMS in the areas of Bondurant and Kendall Valley. Some part-time, off-duty EMTs also respond as volunteer first responders.

Sublette County Sheriff's Department has 55 sworn officers and an additional 15 employees who provide countywide law enforcement, operate the 911 Communications Center and jail, and oversee the volunteer search and rescue program.

Sublette County Unified Fire is a volunteer department located in six fire stations scattered across Sublette County. The department is a consolidation of six departments that were brought together in 2014. It is in the process of creating a unified department and culture under the leadership of a full-time fire chief and full-time administrative assistant. The department has approximately 110 volunteer firefighters and an annual budget of approximately \$2.4 million. The department expects significant budget reductions in 2017-18 because of a lower tax base in a shrinking economy.

Sublette County's remote topography often makes it necessary for dispatch to send search-and-rescue teams on EMS calls. Search and rescue is provided by Tip Top Search and Rescue, a Pinedale-based volunteer, non-profit organization of approximately 40 members who report that they respond to one or two calls per month year-round. The organization operates under Sublette County Sheriff Department and receives funding from the Sublette County Commission, State of Wyoming, and private donations. The organization responds to high angle rescues, water rescues, ice rescues, avalanches, missing and overdue persons, medical evacuations and body recoveries.

First responders, EMS responders and the Communication Center report having respectful working relationships with each other.

911 Response & Medical Transport

Emergency medical response is provided by Sublette County EMS, an ambulance service owned and operated by Sublette County Rural Health Care District. It was formed in January 2006 from the merger of two combination EMS agencies: Pinedale EMS and Big Piney/Marbleton EMS.

Sublette County EMS operates out of two EMS stations, one in Big Piney/Marbleton and the other in Pinedale. In the Pinedale station, an ALS unit is staffed 24/7, with the availability of a second unit staffed by the Director and supervising paramedic. In Big Piney/Marbleton, an ALS unit is staffed 24/7. Staffing is mainly with paid employees, with four volunteers occasionally filling in when needed for back up. During summer months, when tourism in the county is at its peak, an additional ambulance is staffed in Pinedale.

While ambulances are stationed about 35 miles apart, Sublette County EMS uses a dynamic deployment system to ensure that ambulances are best positioned for rapid response. For example, when both ambulances in Pinedale are on calls, the Big Piney/Marbleton ambulance moves to Daniel. When an ambulance goes out on a call in Big Piney/Marbleton, the Pinedale ambulance moves to Daniel. This system allows for shorter response times over a large service area. Sublette County EMS reports en route time of 2.2 minutes and an average on-scene time under 15 minutes. Occasionally, a non-transporting quick response unit staffed by a paramedic from Pinedale is used to respond and begin transport while awaiting ambulance response.

EMS responders provide an advanced level of service and transport patients either to the health care district clinics in Pinedale or Big Piney/Marbleton or to out-of-county hospitals. Out-of-county mutual aid is rarely used, but is in place from surrounding counties and available on an as-needed basis. Because of the long distance to the trauma center in Salt Lake City (up to 10 hours round-trip), Sublette County EMS may pass off patients to Gold Cross ambulance mid-route, in what is known as a patient intercept.

In addition to 911 response and transport, Sublette County EMS participates in a variety of community outreach activities, including:

- First aid and CPR classes;
- Standbys for football games, rodeos, etc.;
- Serving food at local nursing home (while on duty);
- Delivering food bags;
- Supporting community events, such as breast cancer walk; and
- Emergency Medical Responder and Emergency Medical Technician Basic courses.

In addition, because Sublette County EMS is part of the health care district and because ambulance stations are located next to health care district clinics, on-duty EMS personnel

may be summoned by the Communications Center to meet patients at the clinic doors after hours, open the clinic, and begin to triage and care for patients while waiting for a nurse and physician to respond.

Air Medical Service

A variety of out-of-county helicopter flight services (Air Idaho Rescue, Classic Air Medical, Guardian Flight, Life Flight Wyoming, Life Flight Network) are available when the ground ambulance crew or clinic staff requests them. There are no air medical resources based in Sublette County, but helicopter and fixed wing services are available from Idaho Falls, Lander and other locations in Wyoming, Colorado and Utah.

Air ambulances are not dispatched through the Sheriff's Department; rather, ambulance personnel contact them directly using cell phones. The total number of air medical transports from Sublette County each year is not known; however, ambulance personnel report approximately 75 air medical transports annually from Sublette County health care clinics.

EMS Education

Sublette County EMS provides first aid, CPR, first responder and EMT training. It also provides ongoing staff training and continuing medical education. There are no paramedic programs within the county.

EMS System Oversight & Planning

There is no formal EMS system oversight in Sublette County; however, an advisory group called the Sublette County Emergency Services Group meets regularly to discuss emergency planning, challenges, interoperability, big event planning, needs, grant requests and a group approach to solutions. The group is comprised of the county emergency manager, EMS, Sheriff's Department, search and rescue, Highway Patrol, mayors, public health, industry/mining, and schools, with occasional representation from citizens, the park and forest services, homeland security and other stakeholders as needed.

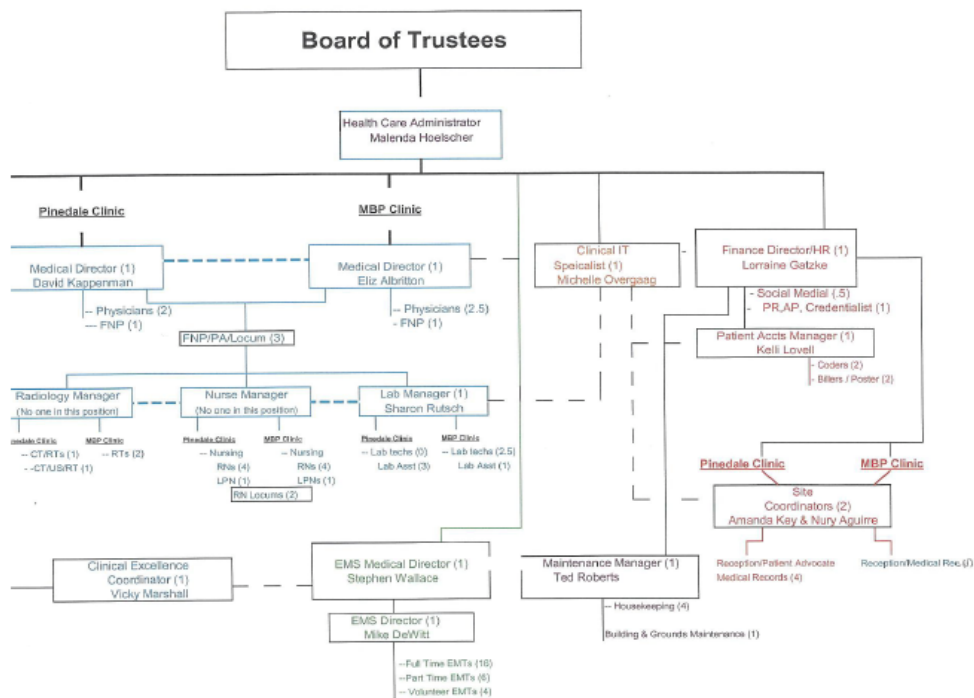
IV. Description of Sublette County EMS

Organizational Ownership & Structure

Sublette County EMS is a department of Sublette County Rural Health Care District, a county taxing district. Sublette County Rural Health Care District was established in 1987 following the dissolution of the Sublette County Memorial Hospital District. The district is overseen by a Board of Trustees who are elected by county residents. The trustees hire a health care administrator who serves as chief executive and oversees the operations of the services provided by the district. Services include the operation of two clinics with medical staffs, nursing services, radiology services, laboratory services and emergency medical services. The district operates independently of county and municipal government, but uses property and buildings owned by the county. The clinic is unable to make improvements to these buildings without consent of county commissioners.

EMS functions as a department of the health care district. The director of the ambulance service is hired by the health care administrator and reports to the administrator. The current organizational chart shows the EMS director reporting directly to the EMS medical director, however, in practice, the EMS director reports to the administrator on operational and financial issues and to the EMS medical director on clinical issues. The EMS director has an assistant who functions in the role of a supervising paramedic.

Sublette County Rural Health Care District



Workforce

Sublette County EMS employs 17 full-time and 9 part-time personnel. All are active. Four of the part-time staff are unpaid volunteers – remnants of a time when all employees donated their time. The age span of the workforce is between 25 and 61, with an average age of 38. Five field personnel are paramedics, 15 are AEMTs, and 6 are EMS basics. Employees are hired and evaluated by the EMS director.

EMS staff work 48 hours on and 96 hours off. There is considerable scheduling flexibility, and employees are able to schedule significant stretches of time off. When off-duty, some of the staff make themselves available to be called in for back-up.

Employees have a pay and benefit package through the health care district that includes health and dental insurance. Current hourly pay rates are:

- EMT-Basic: \$10.50
- Intermediate/Advanced EMT: \$12.20
- Paramedic: \$15.60

On the surface, these rates appear low compared to national averages for EMS organizations of similar size serving rural communities. However, actual take-home pay is significantly higher due to scheduled and unscheduled overtime. Scheduled overtime can add several more dollars per hour. An accurate evaluation of compensation includes an evaluation of annual compensation divided by hours worked.

Facilities, Vehicles & Equipment

Sublette County EMS operates out of two spacious EMS stations that are owned by Sublette County and rented to the health care district for the cost of upkeep (approximately \$100,000 per year). Both facilities are modern and comfortable, with large vehicle bays, office space, ample training rooms, day rooms with kitchens and living areas, and sleep rooms.

Four vehicles are garaged in Pinedale, three in Big Piney/Marbleton. Ambulances available for 911 response include:

- Unit 15, first out in Pinedale: 2012 Ford F-450 made by Osage with 48,789 miles, Stryker Powerlift cot, Zoll X-series Monitor with the ability to transmit 12 lead ECG, Lucas Device, ePCR, modern equipment, in good order, and well maintained;
- Unit 129, second out in Pinedale: 2007 Ford F-450 made by Lifeline with 121,894 miles, Stryker Powerlift cot, Zoll X-series Monitor with the ability to transmit 12 lead ECG, ePCR, modern equipment, in good order, and well maintained;
- Unit MS14, third out in Pinedale: 2001 Ford F-350 made by Lifeline with 139,000 miles, Stryker Powerlift cot, Zoll E-series Monitor, ePCR, equipment in good order, and well maintained;

- Unit EMS1, Echo Unit (Advanced Life Support Rapid Response Vehicle) in Pinedale: 2012 Chevy Tahoe with 39,00 miles, Zoll X-series Monitor with the ability to transmit 12 lead ECG, Lucas Device, Autovent, Mini med pump, ALS supplies, King vision, ePCR, modern equipment, in good order, and well maintained;
- Unit MS140, first out in Marbleton: 2012 Dodge 4500 made by Osage with 49,000 miles, Stryker Powerlift cot, Zoll X-series Monitor with the ability to transmit 12 lead ECG, Lucas Device, ePCR, modern equipment, in good order, and well maintained;
- Unit MS256, second out in Marbleton: 2008 Ford F-450 made by Lifeline with 70,000 miles, Stryker Powerlift cot, Zoll X-series Monitor with the ability to transmit 12 lead ECG, ePCR, modern equipment, in good order, and well maintained; and
- Unit MS141, third out in Marbleton: 2005 Ford F-350 made by Osage with 101,000 miles, Stryker Powerlift cot, Zoll E-series Monitor, ePCR, Equipment in good order, and well maintained.

All medical equipment is up to date and appropriate for the level of care provided and the demands of the service area.

Medical Oversight & Quality Assurance

Sublette County EMS has progressive patient care protocols, internal quality assurance and engaged medical direction. A full-time paramedic acts as the QA/QI officer and reviews all run reports. Patient care reports on complicated and/or high acuity calls are forwarded to the medical director for review. Provider documentation is continuously evaluated and supported with provider feedback and training. The department participates in regular case reviews with its medical director and clinic trauma coordinator. Patient care report data is consistent submitted to WATRS.

The Sublette County Medical Director is responsible for ensuring field providers have appropriate patient care protocols, are clinically competent, and adequately supported with clinical case reviews, continuing education and skill maintenance. He keeps up with clinical developments and seeks to ensure Sublette County EMS is delivering best practices. His involvement in the clinic's emergency services allows frequent interaction with field crews.

Finance & Funding

Sublette County EMS is funded through billing for patient care, tax revenue received by Sublette County Rural Health Care District, and labor donated by volunteers.

Sublette County Rural Health Care District is funded through billing for patient services and a tax of 2 mills that is levied each year by the county. Healthcare funds also are secured by the Rural Health Foundation (RHF), a 501(c)(3) nonprofit corporation. It is closely affiliated with the Sublette County Rural Health Care District but is separately governed

and managed. Funds raised by the RHF are used for projects that improve healthcare throughout the county. Donations made to the RHF are tax deductible as allowable under current IRS tax codes.

As part of health care district, Sublette County EMS has a departmental budget and tracks EMS-specific revenues and expenses. In 2015, it reported total revenues of \$513,654 received from patient billing. During the same time period, it reported total expenses of \$1.9 million, resulting in a net loss of \$1.4 million.

The billing process includes the following steps: Patient care reports (PCR) are read and coded by the billing department; any questions about the PCRs are returned to EMS staff for clarifications and corrections; a claim is electronically submitted through a clearinghouse, when allowed. Explanation of Benefits (EOBs) are returned in the same manner. Statements are sent to patients every 28 days. Payment plans for unpaid bills are accepted. Internal collection processes are enacted, and when applicable, an outside collection agency used.

Billing rates compare with national averages as follows:

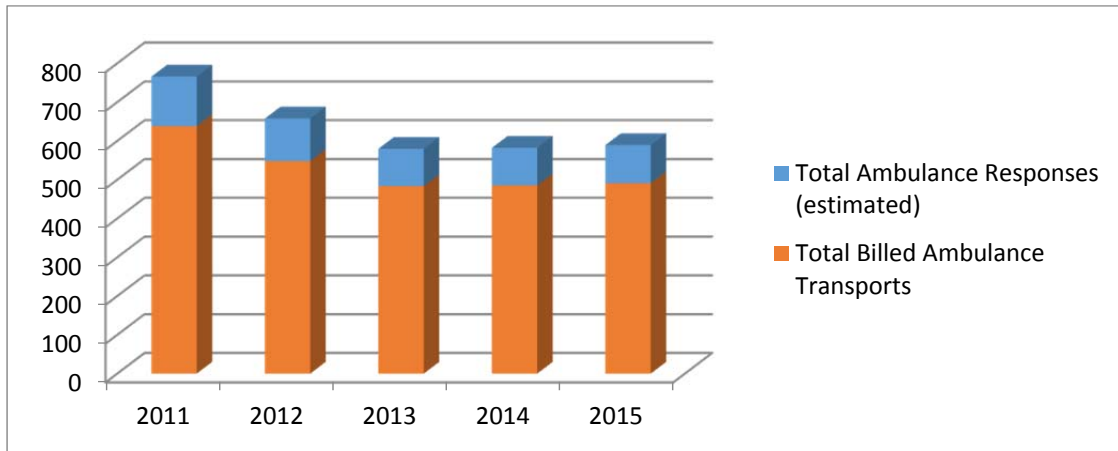
Billing Levels	Sublette County EMS Rates	National Averages
Non-emergency transportation (WC)	\$25	\$17
Mileage	\$22 / mile	\$30
ALS non-emergency	\$662	
ALS emergency	\$1,048	\$2,500 - \$3,500
BLS non-emergency	\$551	
BLS emergency	\$882	\$1,000 - \$2,000
ALS2 emergency	\$1,517	\$3,000 - \$4,000
ALS treatment with no transport	\$200	
ALS treatment with no transport	\$100	
Ambulance Standby	\$50/hour	\$200 BLS / \$400 ALS
A0434 Specialized Critical Transport	No Use	\$3,500 - \$4,500

Total billable transports by year are as follows:

Total Billable Transports, by Type of Transport Year-to-Year¹⁷

	2011	2012	2013	2014	2015
Total Ambulance Responses (estimated)	766	658	580	582	589
Total Billed Ambulance Transports	638	548	483	485	491
A0426, ALS 1 non-emergency	2	1	1	96	173
A0427, ALS 1 emergency	422	342	255	182	154
A0428, BLS non-emergency	20	6	10	92	67
A0429, BLS emergency	151	170	195	94	66
A0433, ALS 2	43	29	22	21	31
A0998, Response and Treatment, No transport				12	30
Ambulance Standbys	27.5	48.3	32.2	39.5	

Ambulance responses versus billed ambulance transports by year are as follows:



¹⁷ Accurately assessing volume remains problematic. See section on EMS call volume above.

IV. Key Observations

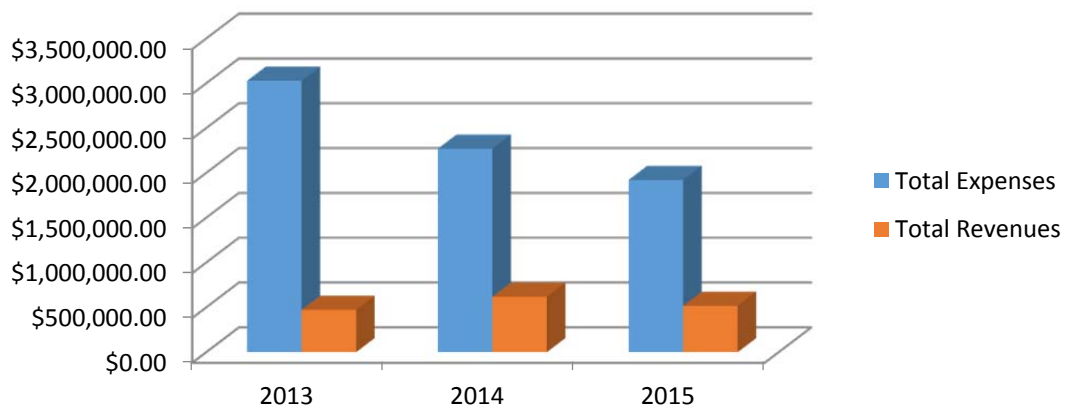
1. EMS is a vital and essential element of healthcare and quality of life in Sublette County.

Geography, climate, distances to medical resources, high levels of trauma, and limited resources combine to make EMS a vital service in Sublette County. Informants view the availability of ambulance transport to definitive medical care as very important to their sense of security and well-being. In the absence of a local hospital and readily accessible advanced medical specialties, informants deem local EMS resources as essential to life and safety issues. Some informants report viewing EMS as the most essential part of the local healthcare system.

2. As operating today, Sublette County EMS is not sustainable.

The current operating budget and operational strategies for Sublette County EMS appear to be based on financial and operational assumptions made during a local economic boom. Anticipated declines in tax revenues and other financial demands on the health care district suggest that Sublette County EMS is not sustainable as operating today. The current gap between operating expenses and transport revenues forces the department to rely on a \$1.4 million subsidy that is likely to not be available in the near future. Without reducing expenses or increasing revenues, the current EMS operations are not sustainable.

Expenses Vs. Patient Billing Revenue



3. Sublette County EMS possesses many elements of a progressive and sustainable rural EMS system.

Creating a sustainable, high quality, rural EMS system in today's market demands leadership, vision, operational and financial efficiency, community support and progressive medical direction. Sublette County EMS has many of these elements in place.

3A. Both the health care district and EMS department have capable leaders. The executive

leadership of the Sublette County Rural Health Care District has demonstrated clear leadership in seeking out this assessment, endeavoring to understand rural out-of-hospital emergency medical services, developing an appropriate place for EMS in district planning, and choosing a qualified EMS director who inspires people to follow him.

3B. The EMS Director has good business and people-management skills. The EMS Director has a substantive background in business development and people-management and is creating a culture that employees value. He is currently managing a significant budget contraction by finding efficiencies, is open-minded, and constantly seeking ways to improve the system. Employees describe him as “one of the best things that has happened to Sublette County EMS.”

3C. The EMS system is implementing dynamic deployment strategies. Sublette County EMS moves its ambulances to strategic staging locations when resources are depleted. This system of dynamic deployment requires monitoring the system’s status and proactively moving resources (sometimes to the discomfort of employees). Dynamic deployment is a best practice strategy that moves ambulance assets within a geographic area to provide the best possible response times while minimizing fixed costs. Such forward-thinking and practice is rare in rural EMS systems.

3D. The EMS system provides a high level of quality clinical care. The clinical care provided by Sublette County EMS matches best practices in rural areas around the nation and is clearly an organizational priority. The service provides advanced level care and is appropriately staffed. The Medical Director is appropriately qualified, prepared and engaged and is always seeking ways to ensure that Sublette County EMS is on the leading edge in delivering high-quality, rural emergency medical care. Informants with the community, clinic and receiving hospitals report no concerns about clinical care provided by Sublette County EMS.

3E. EMS is adequately integrated into the local healthcare system. Tension between EMS and clinical/hospital staff often occurs when EMS is part of a hospital or healthcare district. This tension often is due to differences between how EMS operates compared to clinics and hospitals. Issues that create tension are EMS crews’ downtime between calls, the provision of uniforms, and an expectation that EMS crews be used to supplement clinic or hospital staff.

There is a surprising absence of these tensions in Sublette County. The clinic staff clearly embraces the EMS department and the uniqueness of how EMS operates. The district has succeeded in integrating EMS in ways that strengthen both EMS and the district. EMS is called upon to assist with patient care in a manner that strengthens EMS clinical skills and deepens the relationship between EMS and clinic personnel. EMS crews provide a vital and cost-saving after-hour function of opening the clinic for patients, beginning patient care and summoning nursing/medical staff.

The integration described above paves the way for further integration using Community Paramedicine and Mobile Integrated Healthcare. (See Appendix A).

3F. Sublette County EMS has a knowledgeable and competent billing department. When evaluating an EMS agency's billing capacity, SafeTech Solutions considers the billing staff's technical knowledge of EMS-specific billing, the use and understanding of key reimbursement performance measures, the time available to manage EMS claims, and whether EMS reimbursement is seen as a priority compared to other claims within the organizations.

Sublette County EMS billing staff is knowledgeable about EMS billing, including areas such as HCPC codes, origin and destination modifiers, and the need to bill Medicare for a denial prior to billing a beneficiary for a non-covered service. The billing staff is able to quickly and easily provide data on key billing performance measures, such as A/R days, A/R, payer mix, and billable calls by origin and destination.

It is unlikely that outsourcing billing would bring additional revenues into the system. Outsourcing could complicate financial management; impede the way in which billing practices work within the organizational mission, vision, and values; and hinder customer service.

4. Sublette County EMS faces major challenges associated with the local economy, as well as with its position within the health care district and its lack of a clear vision and strategic plan.

Major challenges facing Sublette County EMS are the local economy, how EMS is positioned within Sublette County Rural Health Care District, and the absence of a clear vision and strategic plan for EMS. Specifically, these challenges are:

4A. Sublette County anticipates sharp reductions in tax revenues. During the past decade, Sublette County EMS has operated without much concern about operational costs. The local economy provided ample resources through the revenues collected by the health care district that, in turn, subsidized the EMS system to the tune of more than \$1 million annually.¹⁸ A significant downturn in the local mineral extraction-based economy is threatening the resources available to subsidize EMS operations.

Informants from Sublette County and the health care district reported an expectation of significant declines in revenues in 2016 and beyond. Effective May 21, 2016, the health care district began initiatives to "right size" health care services provided in Sublette County. These initiatives come on the heels of an anticipated \$3.5 million reduction of tax revenue this coming budget year. It is also anticipated that the district will face an additional \$1.75 million reduction for the 2017 budget.

Reductions in expenditures include adjustments to employee benefits, position elimination per attrition, pay wage adjustments per attrition and changes of purchasing group for

¹⁸ A subsidy is the revenues needed to make up the difference between operational costs and what is collected from billing for services.

supplies and equipment. Saturday clinic hours at the Big Piney/Marbleton and Pinedale Clinics were suspended indefinitely.

4B. EMS will be affected by changes within the health care district. As part of its effort to increase services and revenue, Sublette County health care district has been aggressively seeking Critical Access Hospital (CAH) designation for its Pinedale clinic. CAH designation has the potential to greatly enhance billing revenue through cost-based reimbursement for current services, as well as permit additional services such as in-patient care, swing bed care and observation care.

This change of designation could have both positive and negative implications for EMS. Currently, about 30 percent of patient transfers to out-of-county emergency departments would be eligible for care at a CAH, meaning patients would not be transferred, and as a result, transfer revenue would diminish. However, CAH status also has the potential to increase EMS revenue because ambulance transports to the CAH would become eligible for reimbursement (whereas transports to the clinic are not). Ambulance services that are part of a CAH that meet the 35-mile rule also are eligible for cost-based reimbursement, unlike the majority of ambulance services which are reimbursed under a Medicare Fee schedule.

The health care district is currently awaiting a “green light” from county commissioners to make required physical changes to the clinic structures to meet hospital life safety codes and regulations.

Whether CAH designation will be successful is unknown. Across the nation, many CAHs face significant sustainability issues. Informants are concerned that district time, attention, focus and resources will be needed to make a Sublette County CAH successful and may divert important resources from EMS. As one informant said, “If that hospital fails, we’ll still need EMS.”

4C. Perceptions about the health care district may hurt EMS. Some informants reported having little confidence in the health care district Board of Trustees being able to adapt to declines in tax revenues. Some informants believe that the district has over built, grown too large, and is unwilling to reduce services to match declining revenues. These perceptions may have an impact on the long-term view of EMS in Sublette County and the resources that it needs to continue to provide a high level of quality service.

4D. Sublette County EMS lacks a clear vision and strategic plan. Local residents, ambulance personnel and district leaders are easily able to articulate the day-to-day benefits of having a high level of quality EMS in Sublette County. Community informants spoke passionately about the importance of EMS as a means to access the health care system. However, both informants and EMS staff also expressed concern about the future because EMS lacks a clear vision and strategic plan. As resources become scarce, finding and keeping the right personnel becomes more difficult, leaders are forced to make difficult decisions, and there is uncertainty about what will guide planning and decision-making. Having a clearly defined and easily understood vision and plan for the future provides leaders with a powerful story when fighting for resources.

5. Sublette County EMS lacks clarity with regard its structure, leadership, workforce, and data gathering.

5A. The health care district reporting structure needs clarification. The current organizational chart shows the EMS director reporting directly to the EMS medical director. In practice, informants describe the EMS director as reporting to the health care district administrator for operational and financial issues and to the EMS medical director for clinical issues. Organizational charts provide clear lines of authority and responsibilities. They create structures to support efficiencies, synergies and collaborations. Operations (the ambulance department leader) and clinical care (the medical director) must work closely and have shared responsibilities within the ambulance department. However, at times, they have conflicting responsibilities, such as meeting budget responsibilities versus new clinical initiatives.

5B. Departmental job definitions and reporting structure are weak. Sublette County EMS has an informal structure that identifies an ambulance director, assistant director, supervisors, employees with assigned areas or responsibilities (such as QA or vehicle maintenance), and clinical staff. Job descriptions and key performance indicators for each job are not up-to-date, nor do they accurately reflect current performance. Formalizing titles, positions, job descriptions and reporting structure provides clarity and ensures all employees have the appropriate responsibility and empowerment to be successful within their positions.

5C. The current EMS leader does not have deep operational and financial experience in EMS. While well liked, the current EMS leader lacks experience in the EMS industry. Informants within and outside of the organization report that the current EMS director is an excellent choice to lead the organization. He is respected and credited with bringing a fun, friendly, team-like culture to the organization. SafeTech Solutions agrees; however, while he has great business and people-management skills, he and the department could benefit from a deepening of his exposure to and knowledge of EMS leadership and management concepts specific to EMS organizations. This includes EMS leadership, matching call volume with resources, scheduling in a low-volume agency, long transports, matching organizational resources to a decreasing call volume, and EMS employee engagement.

5D. EMS employee engagement is precarious. While employees generally report being committed to the organization and pleased with its current leadership, employee engagement at Sublette County EMS nonetheless seems tenuous. This conclusion is related to the manner in which cut-backs were handled prior to the leadership of the current EMS director, concerns about annual earnings, concerns about the local economy and the financial health of the health care district, perceptions that EMS is not a priority for the district, concerns that annual income will be reduced as the EMS department limits overtime, and concerns that the current leader will not stay.

Employee engagement is a way of talking about employees' enthusiasm, commitment,

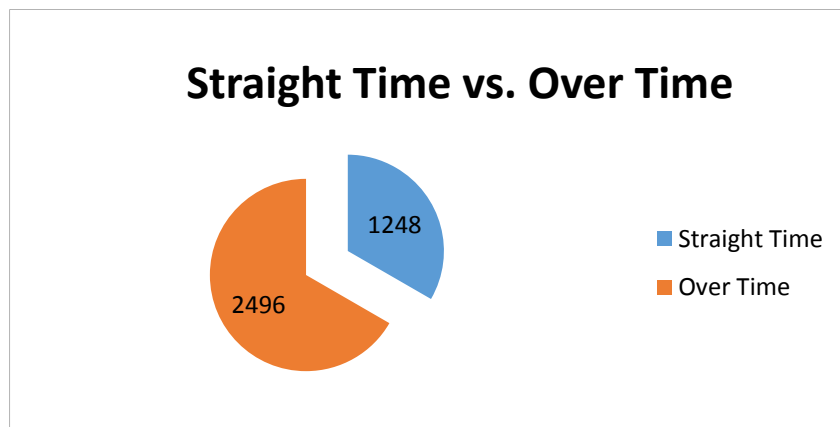
loyalty and willingness to do more than required to advance the organizational mission. Employee engagement is key to organizational success. Engagement is connected to efficiency, safety, customer service, patient care and long-term success. Currently, Sublette County EMS has no formal means of measuring employee engagement.

6. Sublette County EMS is not operating efficiently nor maximizing its revenue from patient billing, and it may have little or no incentive to do so.

6A. The current scheduling system is not efficient. The current call schedule of 48 hours on/ 96 hours off is demanding on field personnel and results in 2,496 hours of overtime per full-time employee per year. This model is financially unsustainable and exposes the organization to large legal risks, such as wage and hour complaints and litigation, and the risk of medical errors, vehicle crashes, and low employee morale and engagement.

The call schedule used by Sublette County EMS jeopardizes the organization’s long-term survivability by creating 96 hours of overtime per week. In a two-week pay period, the typical full-time employee works 48 hours of straight time and 96 hours of time-and-a-half. This system is using the 8 and 80 rule, in which overtime is paid for any hours over eight in a given day. With 96 hours of overtime per pay period, an employee receives 2,496 hours of overtime every year. This system results in employees receiving more in overtime pay than they do in straight time (1,248 hours of straight time, 2,496 hours of overtime pay) and an annual wage of \$77,875 per year for a starting paramedic. Payroll costs will grow exponentially due to the scheduled overtime. The logical result is unsustainable growth in salary dollars.

**Anticipated Wage Increases Over the Next Five Years
Under the Current Overtime System¹⁹**



¹⁹ The calculation uses starting paramedic pay and assumes a total yearly increase in compensation of 3 percent.

	2016	2017	2018	2019	2020
Straight Time	\$19,468.80	\$20,052.86	\$20,654.45	\$21,274.08	\$21,912.31
Over Time	\$58,406.40	\$60,158.59	\$61,963.35	\$63,822.25	\$65,736.92
Annual Comp	\$77,875.20	\$80,211.46	\$82,617.80	\$85,096.33	\$87,649.22

Another significant concern is the possible effect that 48 hours of on-duty time could have on employees, such as the risk of fatigue resulting in medical errors, motor vehicle accidents, low engagement, poor morale, and poor physical health. Nationally, most organizations are eliminating 24-hour shifts due to overwhelming research linking shift length with medical errors, vehicle accidents and poor employee health.

6B. The EMS system has too many resources for its call volume. The current unit deployment model of three 24-hour ambulance crews on duty per day (four during summer hours) plus a supervisor with access to an Echo unit does not match the call volume of fewer than two calls a day.

The most reliable data for understanding the current call volume comes from the billing department, which suggests that Sublette County EMS responds to an estimated 589 calls per year.²⁰ This averages to 1.7 calls a day. Because of a lack of data, some assumptions need to be made to calculate needed resources. For example, let's say one call per day results in a patient being transported to a local clinic, and that transport takes one hour from start to finish. A second call results in an out-of-county transport that takes a total of six hours. The result would suggest that ambulances are engaged an average of seven hours per day.

Based on this assumption, as well as available data, it is reasonable to assume that two 24-hour ambulance crews could easily provide coverage to Sublette County, with a minimal delay in response times or occurrences when the units are unavailable.²¹ In contrast, Sublette County EMS currently staffs three ambulances 24 hours a day, and four in the summer months. This staffing model, coupled with the amount of overtime that results from it, is partly responsible for \$1.9 million in expenses (much of which goes to labor), and a \$1.4 million annual shortfall.

6C. Billing rates for patient transports are too low. Sublette County EMS may be losing revenue by billing at rates that are less than the cost of providing service. A crude way to calculate target billing rates is to divide total expenses by total billable transports. With expenses of \$1.9 million and 491 billable transports, each call would need to return \$3,853 to the system to cover the expense of providing the service.

²⁰ This is calculated by adding 20 percent or 99 responses to the reported 491 billable calls in 2015. A 20 percent no-transport rate is common for U.S. EMS services.

²¹ A typical EMS goal is to staff for coverage of 80 percent of the call volume. It would be financially unsustainable to staff for 100 percent of call volume (i.e. always having an ambulance waiting for the potential of a call).

In contrast, Sublette County EMS receives, on average, \$913 per call, resulting in a loss of \$2,940.95 per call, based on current expenses. Raising rates closer to national averages (see chart on Page 17) could offset as much as 50 percent of the current expenses. For example, let's say rates were raised to an average charge of \$3,335 per transport. At the current rate of return (45 percent), each transport would result in \$1,500.75, for a total of roughly \$740,000 annually. The EMS system might find additional revenue by taking all 192 patients currently being transported by air medical services and shifting them to ground ambulance, which could add an additional \$288,144 to the revenue, for a total of \$1,028,000 annually or approximately one-half of the current expenses. It is unlikely that Sublette County EMS could raise its rates high enough to break even; however, with cost containment and increased revenues, it could dramatically reduce the amount of needed subsidy.

6D. EMS is losing potential revenue by transporting patients to district clinics. When Sublette County EMS transports patients to district clinics rather than to hospitals, and the patients are treated at the clinics and not transferred to hospitals, Sublette County EMS cannot collect for its services. The Centers for Medicare and Medicaid Services (CMS) does not allow ambulance services to bill Medicare for ambulance transports to alternate destinations, such as clinics and physicians' offices. The exact number of patients transported to clinics each year is not known; however, SafeTech Solutions believes that it represents some potential lost revenue.

An ambulance service may bill Medicare patients (using the unique claim code A0888 non-covered service) for transports to a clinic or physician's office once an official denial of payment is received from Medicare; however, there is no indication that this practice being done. Use of A0888, often referred to as "billing for a denial," would provide an indication of how often this situation occurs.

6E. EMS does not have a capital replacement plan. Having a detailed capital replacement plan guides a department in planning for the use of limited capital funds. Without a long-term plan, resources often are allocated to the crisis of the day, or departments are pitted against each other, which results in tension and turmoil within the organization.

6F. The frequent use of air medical resources may not be clinically necessary or operationally efficient. Sublette County EMS currently does not track the use of air medical resources in the county, nor does it have an air medical-specific protocol to guide field and clinic personnel in the use of air medical transport. The use of air medical resources can be difficult and complex. When distances are great and a patient appears acute, air medical transport appears to be a reasonable choice. However, costs, risks and loss of ground transport revenue are important factors in the air medical equation. An air medical helicopter bill in Wyoming today is roughly \$65,000 and could have a 20 percent co-pay to the patient of roughly \$13,000. Air medical resources are often over used.²² By developing

²² <http://www.theatlantic.com/health/archive/2016/01/air-ambulance-helicopter-cost/425061/>

guidelines for appropriate use and a rigorous post-use review process, Sublette County can ensure that air medical transport is warranted, and the cost and risks justified.

6G. The ongoing health care district subsidy of the EMS service might serve as a disincentive for improved organizational efficiency and revenue maximization. The expenses to operate Sublette County EMS today far exceed its revenues. The policy by the health care district to offset EMS losses using district funds may be a disincentive to the EMS system to raise its billing rates, take on more patient transfers, and make other changes necessary to achieve a balanced budget. Without a significant subsidy from the district, Sublette County EMS would be required to make significant adjustments to its expenses and revenues to remain financially viable. While it is not uncommon for rural ambulance services with a large geographic coverage area and a low call volume to be subsidized, a subsidy that consistently makes up for a shortfall without demanding concomitant responsibility may create an environment in which attention to fiscal responsibility is overlooked.

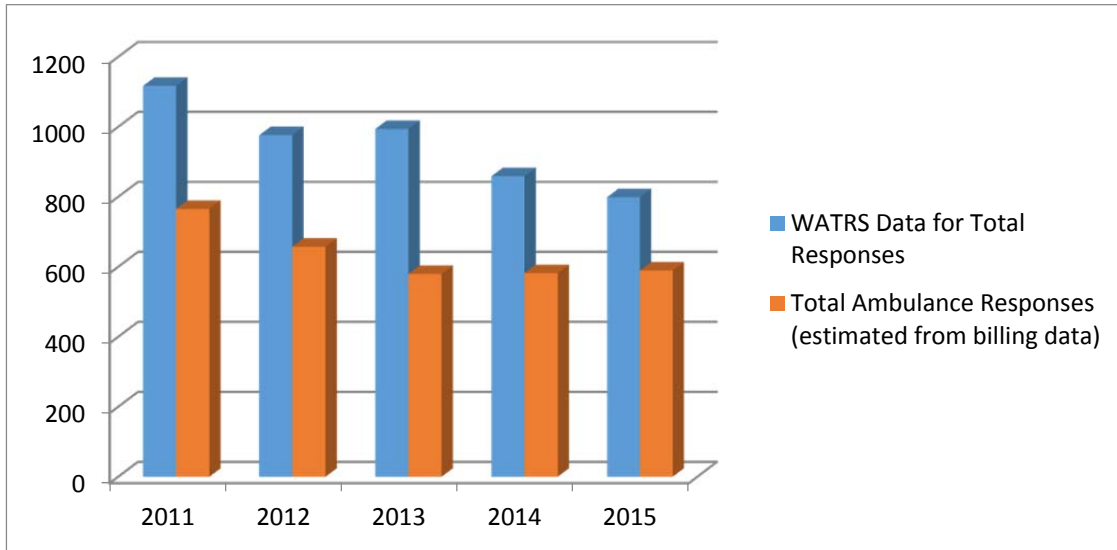
7. Sublette County is failing to do an adequate job of collecting data and analyzing information about its EMS system.

Sublette County EMS lacks reliable data and information needed for analysis and improvement. Basic data and especially historical data are some of the most important tools an EMS leader can have. Data becomes even more important when managing a rural organization with a large and diverse service area and low call volume.

7A. Sublette County EMS does not have basic call data, and the data that it does have is at odds with state-reported data. Sublette County EMS needs reliable and dependable data sources that it can mine to conduct analyses of key performance indicators, such as call data, peak volume periods, financial performance, medication and equipment utilization, etc. Based on SafeTech Solutions' multiple attempts to obtain reliable call data, the only source of reliable information appears to be the billing system.

There also is a discrepancy between data reported to the state EMS database (WATRS) and the organization's run volume data (See graphic on page 30), resulting in an inability to properly use retrospective data to drive strategic decision-making. Call data, such as calls by time of day and day of week, help managers to know when to deploy resources. As call volume grows or declines, data informs decisions about when to add resources or when to take resources out of the system.

Data Discrepancies



	2011	2012	2013	2014	2015
WATRS Data for Total Responses	1117	976	994	859	799
Ambulance Responses (estimated from billing data)	766	658	580	582	589
Total Billed Ambulance Transports	638	548	483	485	491

7B. Sublette County EMS does not have defined key performance indicators (KPIs). KPIs are measurable values that demonstrates how effectively an EMS system is performing in key objectives. EMS organizations use KPIs to evaluate their success at reaching targets and making needed change.

7C. Sublette County has no formal or informal process for measuring EMS employee engagement. Employee engagement is a key indicator of organizational performance. Engaged employees drive organizational success. Disengaged employees may drag down others and impact operational performance, patient care quality, customer service and recruitment and retention (especially in a time of workforce shortages). A 2013 Harvard Business Review Analytic Services report of more than 550 executives found that 71 percent of executives rank employee engagement as very important in achieving success.²³ Across the nation, some of the best EMS organizations are finding that prioritizing and measuring employee engagement is a performance measure that has a big impact on all

²³ *The Impact of Employee Engagement on Performance*, 2013, Harvard Business School Publishing.

others. Engagement is formally measured using engagement surveys and informally measured by preparing leaders and supervisors to prioritize engagement and recognize its presence or absence.

7D. Sublette County has no formal measurement of EMS customer satisfaction. While Sublette County Health Care District does track customer satisfaction through surveys, its customer satisfaction data is not specific to individual departments. The generality of the data makes it difficult to understand the successes and areas for growth in the EMS department. EMS may be a patient's first experience or the last experience with a health care system. These impressions often color the entire patient experience. Understanding more specifically how EMS is modeling the actions and behaviors of the organization would provide actionable goals and objectives for the department.

V. Recommendations

1. Create a vision and plan for EMS success and sustainability.

A vision is a visualization and description of the future that guides planning and decision-making. The process of creating a vision assists an organization in thinking through where it is going and what specifically is needed to get there. As the health care district pursues CAH designation for its clinic, it should also create a vision for sustaining high quality EMS in the county. While a CAH will expand local medical care and provide advantages for patient stabilization and local mitigation of minor medical emergencies, Sublette County will always be reliant upon emergency medical transportation to higher levels of care.

A vision for the future of EMS in Sublette County should include the following elements:

- *A description of the level, quantity and quality of services needed, wanted and fundable.* The vision should reflect a level, quantity and quality of EMS service appropriate for a large rural region with limited medical resources, long response and transport times, and limitations of climate, weather and distance to various medical specialties. The level of care envisioned will likely be Advanced Life Support with some critical care and community paramedic components. The quantity of EMS resources should appropriately fit anticipated call volume, and quality should be assessed and guided by best practices.
- *Prioritization of EMS above other local medical offerings.* Because of EMS's vital transportation role to advanced levels of care, it is essential that EMS have priority in healthcare spending in Sublette County. The vision should take into consideration the opportunities and risks of CAH designation, which could provide additional resources to EMS, such as the ability to bill when patients are brought to the CAH, as well as cost-based reimbursement for EMS. But CAH designation also could become a liability for EMS by becoming the top priority in commanding district resources, such as time, attention and money, in both the short-term and long-term. EMS must remain a priority regardless of CAH designation.
- *A powerful and reassuring story to tell about EMS.* A vision that ensures EMS will be prioritized in district planning may assist leadership in telling a reassuring story about the use of local financial resources.
- *Maximization of the use of ground-based EMS.* In envisioning the future, it is imperative that EMS is appropriately used not only for 911 response and transport but also for interfacility transfers as well in the emerging role of integrating with and extending access to healthcare through community paramedicine.

2. Strengthen the EMS organizational structure and leadership team to support sustainability.

Having a strong organizational structure in the EMS department will contribute to long-term sustainability and is vital to organizational performance. Sublette County EMS should take the following actions:

- *Clarify the EMS reporting structure for EMS within the health care district.* Both the EMS director and the EMS medical director should report directly to the health care administrator, with dotted line reporting between the EMS director and the EMS medical director. This structure creates an advantageous separation between clinical care reporting and operational and financial reporting.
- *Clearly define the roles, responsibilities and performance indicators of the EMS leadership/management team.* Identify the needed team structure and roles (such as director, assistant director/manager, quality coordinator, supervisors, training coordinator, etc.). Roles and titles should have clear job descriptions and performance indicators that are understood by all and used to guide performance.
- *Invest in the EMS leadership team's knowledge of EMS operations and finance and exposure to best practices.* Sublette County EMS will benefit from EMS leadership training and education, exposure to other systems, and continuous learning about best practices and innovation. Leadership should be encouraged to attend EMS leadership education, conferences and seminars.
- *Ensure the leadership team is committed to the organization and its future.*

3. Strengthen operational and financial efficiency by narrowing the gap between expenses and revenues.

Efficient use of human, financial and material resources is key to long-term sustainability. Sublette County EMS could cut its current losses in half, and possibly move the department to break-even status by taking the following actions:

- *Reduce the number of deployed resources to match anticipated call volume.* Based on best available data, Sublette County EMS has too many staffed ambulances on duty per day and should reduce resources to two 24-hour transporting ambulances per day. Unit utilization should be studied to consider the addition of an Echo unit to augment response capability.
- *Develop and implement a new call schedule that reduces overtime and is safe and humane.* The current 48 on/96 off schedule should be modified to one that is less taxing on field personnel and results in less overtime. SafeTech Solutions recommends a 36-hour work week for field staff. The schedule would consist of three 12-hour shifts. Two of the 12-hour shifts could be put together for a maximum of 24 hours on duty, with at least 12 hours off between shifts. This change may

require the hiring of additional field personnel and will result in additional short-term expenses (hiring, uniforms), but is safer in the long-term. In addition, it will result in less overtime, which will reduce expenses. Eliminating scheduled overtime should be a goal, and unscheduled overtime should be no more than 10 percent of total wages.

- *Raise revenue by increasing billing rates, capturing lost revenue and ensuring all patients are transported to a hospital.*
- *Develop a capital vehicle replacement plan.* Develop a schedule with costs for all capital purchases over the next 10 years. Use this schedule as a map to plan financially and operationally to ensure that the organization has the most up-to-date physical assets and finances to pay for those assets.
- *Use air medical resources efficiently.* Air medical use should be guided by clinical and operational needs and determined by a standard protocol. Create an air medical protocol by studying current air medical use and determining whether use is medically necessary and appropriate. Determine whether Sublette County EMS is losing revenue by over-use of air medical resources versus long-distance ground transports.

4. Use data to drive decisions.

The collection and appropriate use of data is essential to efficient system operations. Decision-making should be guided by reliable data and information. Specifically, Sublette County EMS should:

- *Ensure that essential data is reliable, complete, and consistent with other data sources, such as WATRS and the local communication center.* The WATRS system provides many pre-defined and custom reports to analyze system performance. Ensuring the data submitted to WATRS is 100 percent reliable should be a priority.
- *Develop a dashboard that includes key performance indicators critical for success.* A dashboard is a quick way of monitoring system performance. For Sublette County EMS, a dashboard may include:
 - System status (how often deployed resources are being used and how often, when the system is low on resources and response time);
 - Scheduling and overtime (consistency of schedule to limit overtime to predetermined level);
 - Clinical quality (protocol compliance);
 - Financial performance (expenses, revenues, collection rates)'
 - Air medical use; and
 - Customer satisfaction.
- *Regularly measure employee engagement.* Employee engagement is key to ensuring that the organization has a culture that employees love and to which they are

attracted. Engagement should be measured through annual surveys and regular conversations with employees concerning key engagement issues.

5. Continue to develop healthcare integration

- The district should continue to integrate EMS into its healthcare offerings, and explore expanding its use of EMS into non-911 services with the goal of creating a truly integrated care model (see Appendix A).

Appendix A

What is Community Paramedicine?

Community Paramedics or Mobile Integrated Healthcare (MIH) is the provision of healthcare using patient-centered, mobile resources in the out-of-hospital environment. It may include, but is not limited to, services such as providing telephone advice to 9-1-1 callers instead of resource dispatch; providing community paramedicine care, chronic disease management, preventive care or post-discharge follow-up visits; or transport or referral to a broad spectrum of appropriate care, not limited to hospital emergency departments.

Key components of MIH programs include:

- Fully integrated – a vital component of the existing healthcare system, with efficient bidirectional sharing of patient health information.
- Collaborative – predicated on meeting a defined need in a local community articulated by local stakeholders and supported by formal community health needs assessments.
- Supplemental – enhancing existing healthcare systems or resources, and filling the resource gaps within the local community.
- Data driven – data collected and analyzed to develop evidence-based performance measures, research and benchmarking opportunities.
- Patient-centered – incorporating a holistic approach focused on the improvement of patient outcomes.
- Recognized as the multidisciplinary practice of medicine – overseen by engaged physicians and other practitioners involved in the MIH program, as well as the patient’s primary care network/patient-centered medical home, using telemedicine technology when appropriate and feasible.
- Team based – integrating multiple providers, both clinical and non-clinical, in meeting the holistic needs of patients who are either enrolled in or referred to MIH programs.
- Educationally appropriate – including more specialized education of community paramedicine and other MIH providers, with the approval of regulators or local stakeholders.
- Consistent with the Institute for Healthcare Improvement's IHI Triple Aim philosophy of improving the patient experience of care; improving the health of populations; and reducing the per capita cost of healthcare.
- Financially sustainable – including proactive discussion and financial planning with federal payers, health systems, Accountable Care Organizations, managed care organizations, Physician Hospital Organizations, legislatures, and other stakeholders to establish MIH programs and component services as an element of the overall (IHI) Triple Aim approach.

Legally compliant – through strong, legislated enablement of MIH component services and programs at the federal, state and local levels.