

SafeTechSolutions

Final Report

**ASSESSMENT
OF
EMERGENCY MEDICAL SERVICES
IN
NIOBRARA COUNTY, WY**

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Executive Summary

Lusk-Niobrara Ambulance Service (LNAS) provides emergency medical services (EMS) to Niobrara County in eastern Wyoming. As operating today, LNAS is not sustainable due to several factors. These factors include the critical shortage of active individuals on its roster; the organization's reliance on a single driver who responds to the vast majority of ambulance calls; the loss of potential revenue from inter-facility transports; and the real or perceived unfairness of depending on the Town of Lusk to fund an ambulance service that covers the entire county. While LNAS is not long-term sustainable, it does successfully operate on a day-to-day basis. The service has dedicated volunteers and committed and engaged leaders.

LNAS, like many rural, volunteer EMS organizations in Wyoming and across the nation, is experiencing a slowly evolving crisis made up of many components, including: a national change in people's willingness and availability to volunteer; increasing demands of clinical care; the regionalization of healthcare; ever-decreasing reimbursement paired with ever-increasing costs of readiness and operations; and the decline of rural communities as populations shift to urban and suburban areas.

Recognizing these challenges, the leader of LNAS elected to apply for an agency assessment offered by the Wyoming Office of Emergency Medical Services. The focused assessment resulted in ten major recommendations built from twelve key findings:

Recommendations

- 1 Communicate a powerful urgency, reason and message that conveys what changes are needed to ensure EMS is sustainable in Niobrara County.
- 2 Create a community-wide shared vision for EMS in Niobrara County that includes all stakeholders and operational and clinical expectations. The visioning process should also be a time to gauge the community's willingness to fund the vision.
- 3 Invest in the role of ambulance leader.
- 4 Maximize all current revenues.
- 5 More deeply understand and accept the needs and limitations of the current EMS system.
- 6 Ensure all who benefit from a county-wide EMS system help support the county-wide EMS system.
- 7 Consider a partnership model between the three largest entities: Niobrara County, the Town of Lusk, and Niobrara Community Memorial Hospital.

- 8 Invest in providing inter-facility transfers.
- 9 Use the revenue generated from inter-facility transfers to subsidize county-wide Advanced Life Support 911 services.
- 10 Structure the ambulance agency more like a business and less like a social organization, while maintaining the best of both models.

Findings

- 1 EMS is a vital and desirable element of healthcare and quality of life.
- 2 Workforce recruitment and retention is, and will likely continue to be, a major challenge.
- 3 There is a lack of consensus around specific questions related to EMS in Niobrara County, such as: Who funds it? Who ensures the provision of service(s)? Who governs it? Who operates it?
- 4 There is perceived injustice in the distribution of costs and who bears the financial burden of providing EMS in Niobrara County. Today, for example, all current operational costs are borne by the Town of Lusk.
- 5 All interviewees speak positively about the clinical care provided by Lusk Niobrara Ambulance Service.
- 6 The current structure and accountability for duties are unclear and lacking.
- 7 LNAS appears to be on the brink of collapse based on its current roster numbers and the heavy burden carried by a few members.
- 8 LNAS, as operating today, is at risk of missing calls, particularly considering its heavy reliance on one driver.
- 9 Revenues are not being maximized.
- 10 Collaboration with the local critical access hospital could strengthen sustainability.
- 11 The inability to staff transfers is affecting patients, the hospital and LNAS's finances.

While LNAS does currently function and operate on a day-to-day basis, the agency should begin to consider steps to reinforce sustainability and address areas of fragility. The path forward and needed actions may involve new models of delivery, partially-paid or paid staff, and additional investments in leadership. Of the many tools needed to aid a community through a transition, leadership and leaders will be critical. Equally critical will be the need for all who benefit from a county-wide EMS system to be active in its support, maintenance and operations. Today, the Town of Lusk provides the vast majority of the financial and operational support for the county-wide service.

I. Introduction & Methodology

SafeTech Solutions, LLP is an EMS consulting firm with extensive knowledge of national and international EMS systems and expertise assisting in the development of rural ambulance services. In February of 2022, SafeTech Solutions, through the Wyoming Office of Emergency Medical Services conducted an assessment to consider the sustainability, reliability and long-term financial viability of the EMS system in Niobrara County. Currently, Niobrara County is serviced by one ambulance agency, the Lusk-Niobrara Ambulance Service (LNAS).

The goals of the Lusk-Niobrara Ambulance Service assessment were to:

- Evaluate the sustainability, reliability and long-term viability of EMS in Niobrara County, Wyoming;
- Look for system components that are working well; and
- Make recommendations for change and improvement to foster more long-term sustainability.

The assessment focuses on area-wide needs, current operations, system design and available supporting resources, with an eye toward long-term sustainability, reliability and viability. The scope of the assessment was limited. The assessment is not an audit of the organization's finances, clinical care or organizational culture. Air medical services were not part of the assessment. All data was provided by LNAS itself and was validated by SafeTech Solutions' best efforts via follow-up questions and further data gathering. SafeTech Solutions provided a list of key stakeholder categories for focused interviews, and LNAS's director selected individuals to be interviewed.

The ambulance service in Niobrara County, as is the case for many rural, remote and frontier ambulance services across Wyoming and the United States, is facing challenges that have converged into a "perfect storm." First, volunteerism across the region is declining; second, the regionalization of healthcare means more and more demands are placed on ambulance service staff who must transport patients further distances; third, the ever-increasing cost of providing EMS, along with ever-decreasing reimbursement for services, makes financial resources available to maintain and grow EMS organizations scarce; and lastly, the multi-year effects of the COVID-19 global pandemic on organizations, leaders, and current and future personnel have strained and challenged EMS in ways we are still trying to understand and

cope with.

The Lusk-Niobrara Ambulance Service is facing challenges in: recruiting and retaining active and engaged volunteers; financial sustainability; low call volume; inability to provide inter-facility transports; insufficient revenues to pay for the true cost of providing EMS; one community paying the lion's share of the costs for EMS on behalf of the county; the regionalization of healthcare; demands for ever-more-sophisticated out-of-hospital clinical care; and high turnover in the key ambulance leadership position. These concerns, as well as many more, led the organization to request an assessment through the Wyoming Office of Emergency Medical Services.

Methodology

SafeTech Solutions' assessment team employs a process that capitalizes on the firm's extensive understanding of rural EMS systems and experiences working with leaders and organizations nationwide. Its principals gathered quantitative and qualitative data through research, site visits, interviews and requests for documentation. Two consultants visited Niobrara County, Wyoming, to review documents and data, conduct interviews and assess operations. In addition to evaluating the ambulance organization (including organizational structure, leadership and operations), SafeTech Solutions researched and deeply considered the social, economic, demographic, cultural and political issues in the wider area.

SafeTech Solutions' process aims to produce specific recommendations based on industry best practices that are meaningful, measurable and actionable. This report summarizes the findings, key observations and recommendations resulting from the assessment process.

II. Overview of Niobrara County, Wyoming

Niobrara County in Wyoming is located along the state's eastern border with South Dakota and Nebraska. The county was named after the Niobrara River, which originates near the county seat of Lusk, Wyoming.

Niobrara County is the least populated county in Wyoming, and it is also the smallest in the state. Created in 1911, the county is made up of lands that were a part of Converse County, Wyoming, to the west.

The land that makes up Niobrara County was once roamed by various Northern Plains tribes, including the Arapaho, Crow, Cheyenne, Lakota Sioux and Pawnee. Eventually, the U.S. government forced the tribes to relocate following the Great Sioux War of 1876.¹

After gold was discovered in the Black Hills of South Dakota to the northeast, the area became an important route for the transport of miners, passengers and freight between Cheyenne, in the Wyoming Territory, and Deadwood, in the Dakota Territory.²

¹ Lebsack, N. (2014). Niobrara County, Wyoming. In T. Rhea (ed.), *WyoHistory.org*. Wyoming State Historical Society. <https://www.wyohistory.org/encyclopedia/niobrara-county-wyoming>

² *Ibid.*

Originally settled in the early 1880s by miners looking to take advantage of the area's gold, silver and copper deposits, the town of Lusk was eventually founded from lands donated by a local rancher named Frank Lusk combined with three other settlements.³

By 1886, the Fremont, Elkhorn and Missouri Valley Railroad had reached the relatively new town of Lusk. In 1912, Niobrara County was established, with Lusk soon being chosen as the county seat.⁴

Oil was discovered in the area in 1917, and soon companies moved in to take advantage of the resource. This lasted until 1933 and the arrival of the Great Depression, which caused oil prices to fall.⁵

By the 1940s, Lusk had received electrical power.⁶ With the arrival of telephone service in Lusk in the mid-1900s, telephone service was extended to other areas of Niobrara County in 1962, when the Mountain States Telephone and Telegraph Company built a line from Lusk to Red Bird, Wyoming.⁷

Despite its distinction as the smallest county in Wyoming, Niobrara County still gives visitors and residents breathtaking scenery year-round and easy access to a wide variety of natural outdoor areas, including the Oglala National Grassland to the east, the Black Hills National Forest to the northeast, and the Thunder Basin National Grassland to the north.

The Niobrara County area also offers top-notch medical services using some of the latest technologies at Niobrara Community Hospital. Other medical facilities close to Niobrara County include Community Hospital in Torrington, Wyoming, to the south; Memorial Hospital of Converse County in Douglas, Wyoming, to the west; and the Wyoming Medical Center in Casper, Wyoming, even further to the west, among others.

Lusk

Serving as the Niobrara County Seat almost since the county's founding, Lusk's primary industry is cattle ranching. It is also the biggest population center in the county and serves as a stopping-off point for travelers visiting area national parks.

Manville

Named after cattleman H.S. Manville, Manville, Wyoming, is a small town about 10 miles to the west of Lusk. Like Lusk, Manville is known for its cattle ranches and its wide open and beautiful vistas.

Van Tassell

With an even smaller population than neighboring Manville and Lusk, to the west, Van Tassell is a small community that lies near the border of neighboring Nebraska. In fact, the town of

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Town of Lusk. (n.d.). *Historical Lusk*. Lusk, Wyoming: The little town with big possibilities.

<https://www.townoflusk.org/index.asp?SEC=6CEA37F0-7C9E-42B5-80D5-590D1F38BCFD&Type=NONE>

⁷ Himes, L. (2019, January 16). Century link or weak link of the century. *The Lusk Herald*.

<https://luskherald.com/article/century-link-or-weak-link-of-the-century>

Van Tassell is so small that the only way to find the town is to look for its historical marker along U.S. 20.

Summary of Niobrara County, Wyoming

Niobrara County's strong connection to the land and the region's past makes it a unique stop for visitors traveling through Wyoming on their way to various outdoor recreational areas and parks. The county's small nature represents a unique challenge when planning out-of-hospital emergency medical services.

The Land

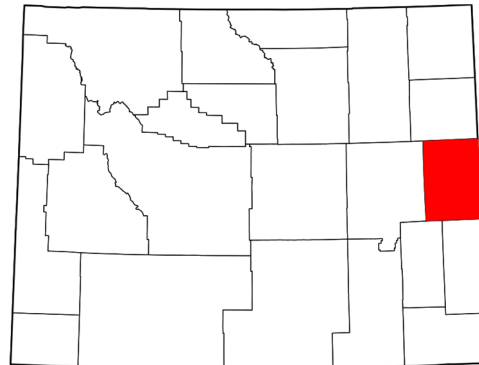
Encompassing 2,625 square miles, Niobrara County is made up mostly of land, with only about 1.9 square miles of water in the county. The land consists of rolling plains, slightly sloped toward the east. Most of the water in the north part of the county comes from the Cheyenne River and its tributaries.⁸

The surrounding areas of the county are dominated by sparse trees and vegetation; there are, however, some small hills in the vicinity of Lusk.

The top half of the county borders the Thunder Basin National Grasslands, a vast area of semi-arid wilderness home to antelope and prairie dogs. Outdoor activities such as hiking and fishing are popular in the area.

Directly to the east where Nebraska, South Dakota and Wyoming meet is the Oglala National Grassland, home of Toadstool Geological Park and a popular hiking and camping spot. On average, the elevation in Niobrara County is between 6,100 and 6,120 feet above sea level.⁹

Almost 82% of land in Niobrara County is publicly owned. The remaining 18% is either state or federally owned land, with federally owned lands administered by the U.S. Bureau of Land Management (BLM).¹⁰



Source: https://en.wikipedia.org/wiki/Niobrara_County,_Wyoming

Transportation

Niobrara County has two main roadways that intersect at Lusk. These are U.S. 85, which enters the county from neighboring Goshen County to the south before heading through Lusk, and U.S. 18. Both U.S. 85 and U.S. 18 travel north through the county, U.S. 85 exiting into Weston County to the north, and U.S. 18 breaking off to head east into South Dakota.

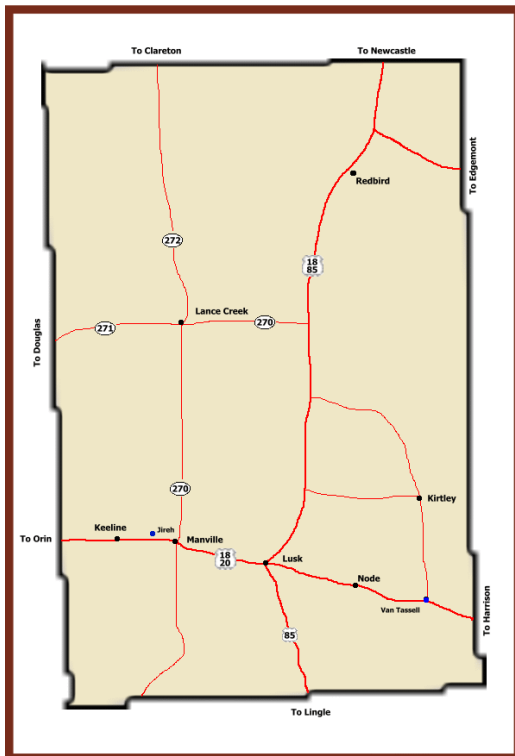
⁸ Lebsack, N. (2014). Niobrara County, Wyoming. In T. Rhea (ed.), WyoHistory.org. Wyoming State Historical Society. <https://www.wyohistory.org/encyclopedia/niobrara-county-wyoming>

⁹ Peakbagger.com. (n.d.). *Niobrara County high point, Wyoming*. <https://www.peakbagger.com/peak.aspx?pid=6242>

¹⁰ Niobrara Conservation District. (n.d.). *2015-2020 Niobrara conservation district land & resource use plan and policy*. <https://www.niobraraconservation.org/pdf/2015-2020%20Land%20Use%20and%20Natural%20Resource%20Plan%20and%20Policy.pdf>

U.S. 20 runs along the south part of Niobrara County, entering Wyoming from Nebraska to the east before passing through the town of Van Tassell on its way to Lusk. In Lusk, U.S. 20 meets up with U.S. 18 as both roads combine to head west to Converse County.

Other thoroughfares in Niobrara County include State Roads 270 and 272. State Road 270 enters Niobrara County from Platte County to the south, heading north through Manville to meet up with State Road 272. At this point, State Road 270 turns to the east, eventually meeting up with U.S. 85/18. Meanwhile State Road 272 runs northward, ending at the border with Weston County.



Source: <https://www.ghosttowns.com/state>

Niobrara County is served by one airport, Lusk Municipal Airport, located in the town of Lusk. Lusk Municipal Airport sees about 25 aircraft operations per week, many of those local general aviation or transient in nature.¹¹

Another nearby airport is Converse County Airport, located just outside of Douglas, Wyoming, to the west. This airport sees an average of 93 aircraft operations per week.¹² Custer County Airport is located in the neighboring state of South Dakota. It sees approximately 80 aircraft operations per week.¹³

Cheyenne Regional Airport is located to the south, with about 124 aircraft operations per day.¹⁴ In addition to commercial flights, it serves as the home of the Cheyenne Air National Guard. About 50% of its operations are military flights.

Land Use, Tourism & Industry

Agricultural lands in Niobrara County are mainly used for cattle grazing. A small percentage is used for other purposes, such as for crops and other forms of livestock.¹⁵

In addition, Niobrara County is a producer of oil and natural gas. Oil well operators in the county produce around 55,000 barrels of oil a year. Natural gas is produced at a rate of roughly 77,000 MCF a year.¹⁶

¹¹ AirNav.com. (2022, February 24). *KLSK, Lusk municipal airport*. AirNav.com. <https://www.airnav.com/airport/KLSK>

¹² AirNav.com. (2022, February 24). *KDGW, Converse County airport*. AirNav.com. <https://www.airnav.com/airport/KDGW>

¹³ AirNav.com. (2022, February 24). *KCUT, Custer County airport*. AirNav.com. <https://www.airnav.com/airport/KCUT>

¹⁴ AirNav.com. (2022, February 24). *KCYS, Cheyenne regional airport/Jerry Olson field*. AirNav.com. <http://www.airnav.com/airport/KCYS>

¹⁵ United States Department of Agriculture. (2017). *2017 Census of agriculture, County profile: Niobrara County, Wyoming*. https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Wyoming/cp56027.pdf

¹⁶ DrillingEdge. (2022). *Oil & gas production in Niobrara County, WY*. <http://www.drillingedge.com/wyoming/niobrara-county>

Niobrara County is also impacted by tourism. Visitors travel to the area each year for the Legend of Rawhide Weekend, as well as to visit the Sager House Bed and Breakfast, The Stagecoach Museum, and the grave of woman outlaw Mother Feather Legs.¹⁷ The area serves as a stopping-off point, as well, for tourists heading to one of the nearby national parks.

Major employers in Niobrara County include schools within the Niobrara County School District, the Union Pacific Railroad, various local governmental agencies, and Niobrara Community Hospital.¹⁸

The People

The population of Niobrara County in 2019 was 2,356. This represents a 5% reduction from a population total of 2,484 in 2010.¹⁹

The majority (62%) of Niobrara County residents live in a traditional family home. Around 38% of individuals live in a non-family home.²⁰

People identifying as White make up 94% of the population of Niobrara County. Approximately 1% are American Indian in descent, while about 4% consider themselves Hispanic or Latino, and 1% Black.²¹

There are three towns located in Niobrara County, and the biggest of these is Lusk. The other two population centers are Manville and Van Tassell. Roughly 65% of the population in Niobrara County lives in one of these three towns. The remainder of the population lives in one of the unincorporated areas of the county.

Niobrara County, Wyoming: Incorporated Town Populations

Town	Population	Square Miles
Lusk	1,526	2.07
Manville	87	0.27
Van Tassell	18	1.83
TOTAL	1,631	

Source: City-Data.com

A little over half (53%) of the residents of Niobrara County are working-age adults. The rest are either 65 years or older (23%) or children under the age of 18 (24%).²²

Each year, the residential population of Niobrara County increases with the arrival of tourists from other areas of the U.S. and from around the world. While the number of tourists that

¹⁷ Town of Lusk. (n.d.). *Tourism*. Lusk, Wyoming: The little town with big possibilities.

https://www.townoflusk.org/index.asp?SEC=71723A5C-E1C9-4F63-9C97-E1D14F872CE5&Type=B_LOC

¹⁸ Lebsack, N. (2014). Niobrara County, Wyoming. In T. Rhea (ed.), *WyoHistory.org*. Wyoming State Historical Society.

WyoHistory.org: <https://www.wyohistory.org/encyclopedia/niobrara-county-wyoming>

¹⁹ U.S. Census Bureau. (2022). *QuickFacts: Niobrara County, Wyoming*.

<https://www.census.gov/quickfacts/niobraracountywyoming>

²⁰ World Population Review. (2022). *Niobrara County, Wyoming Population 2022*. <https://worldpopulationreview.com/us-counties/wy/niobrara-county-population>

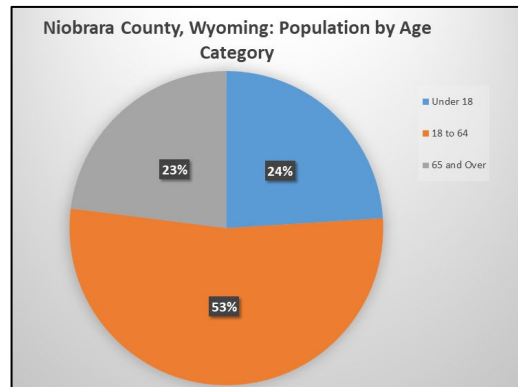
²¹ U.S. Census Bureau. (2022). *QuickFacts: Niobrara County, Wyoming*.

<https://www.census.gov/quickfacts/niobraracountywyoming>

²² *Ibid.*

pass through the area each year is not known, state and local officials must nevertheless keep tourism in mind when allocating EMS resources. Visitors to the area do tend to use local resources during medical emergencies or when injured in vehicle and recreational accidents.

The population of Niobrara County is expected to see a decline over the coming years. By 2025, the population is expected to decline by 56 residents to 2,300. The county expects to see a further decline of 40 people by 2030, with an additional decline of 20 people, to put the population at 2,240, by 2040.²³



The Economy

The median household income in Niobrara County is \$39,150,²⁴ which is \$25,853 less than the median household income of \$65,003 for the state of Wyoming.²⁵

Roughly 20% of the population of Niobrara County lives below the poverty line.²⁶ This is much higher than the state average, which is around 11%.²⁷ Unemployment in Niobrara County is currently at 1.9%,²⁸ while unemployment in the state of Wyoming is 4.1%.²⁹ This is down from a high of 6.5% in Niobrara County in 2010.³⁰

A majority (85.6%) of the residents in Niobrara County have some form of health insurance. Of the population with health insurance, 29.6% have employer coverage, 33.6% have Medicaid or Medicare, 21% have non-group plans, and 1.3% have VA or military insurance.³¹

III. Overview of Niobrara County, Wyoming, EMS System

The EMS needs of Niobrara County, Wyoming, are currently provided by the Lusk – Niobrara Ambulance Service (LNAS), based in the Town of Lusk, in the south-central region of Niobrara County. The Lusk-Niobrara Ambulance Service functions as a volunteer organization with a stipend paid when staff respond to calls. Additional pay is allocated when the service does an inter-facility transfer between the Niobrara Community Hospital and tertiary care centers. The service director, who is also an employee of the Town of Lusk, receives a nominal salary for oversight of the ambulance operation.

²³ Wyoming Department of Administration & Information, Economic Analysis Division. (2019, August). *Population for Wyoming, counties, cities, and towns: 2010 to 2040*. <http://eadiv.state.wy.us/pop/wyc&sc40.htm>

²⁴ Data, USA. (2022). *Niobrara County, WY*. <https://datausa.io/profile/geo/niobrara-county-wy>

²⁵ Data, USA. (2022). *Wyoming*. <https://datausa.io/profile/geo/wyoming>

²⁶ Data, USA. (2022). *Niobrara County, WY*. <https://datausa.io/profile/geo/niobrara-county-wy#economy>

²⁷ Data, USA. (2022). *Wyoming*. <https://datausa.io/profile/geo/wyoming#economy>

²⁸ Federal Reserve Bank of St. Louis Economic Data (FRED). (2022, March 18). *Unemployment rate in Niobrara County, WY*. <https://fred.stlouisfed.org/series/WYNI0B7URN>

²⁹ Federal Reserve Bank of St. Louis Economic Data (FRED). (2022, March 16). *Unemployment rate in Wyoming*. <https://fred.stlouisfed.org/series/WYUR>

³⁰ Federal Reserve Bank of St. Louis Economic Data (FRED). (2022, March 18). *Unemployment rate in Niobrara County, WY*. <https://fred.stlouisfed.org/series/WYNI0B7URN>

³¹ Data, USA. (2022). *Niobrara County, WY*. <https://datausa.io/profile/geo/niobrara-county-wy#health>

LNAS is currently licensed at the IEMT level by the State of Wyoming Department of Health. Primary response to emergency calls will bring Basic Life Support (BLS)-level care to the scene with limited delivery of the Intermediate-level care the service is licensed for. Ambulances are equipped with supplies for the provision of advanced care; however, opportunities for the application of these skills appear to be limited due to volume and the comfort level of the providers licensed to provide advanced care.

Per the Wyoming Emergency Medical Services [Scope of Practice](#), a service licensed at the IEMT level can provide a number of advanced skills. The license level permits the administration of many medications and the ability to perform many procedures in critical situations.

Today, LNAS has a fleet of three (3) ambulances and responds to approximately 185 requests for service annually. Of these requests for service, 86% are emergency responses, and 14% are requests classified as transfers. The transfer category can be further broken down to include: transports of flight teams between the airport and Niobrara Community Hospital (6% of total call volume), and inter-facility transports between Niobrara Community Hospital and tertiary care centers, primarily in Casper, Wyoming (8% of total call volume).

Niobrara Community Hospital, a Critical Access Hospital (CAH), frequently has the need to transport patients to other facilities where additional care can be obtained for critically ill or injured patients. With a volunteer staff, LNAS is often unable to meet the transportation needs of the hospital. Consequently, the hospital must request Advanced Life Support (ALS) ambulance services from 50-100 miles away. (The hospital may also request air ambulance support if the patient's condition is not suitable for ground transport).

The current limited ability of LNAS to provide consistent support for inter-facility transports from Niobrara Community Hospital creates delays, often for several hours, for patients that need to be transported to higher levels of care.

LNAS's ambulances are housed in Lusk at a facility dedicated to the ambulance service. The base has adequate apparatus space for the three ambulances, a large meeting/training space, and some non-office areas for administrative duties. The facility lacks both private quarters for staff to stay at the facility. Ambulances are well maintained, and it is apparent investments in updating equipment have been made to provide optimal patient care and also safe working conditions for the ambulance crew.

Call Taking, Dispatch & Communications

Emergency dispatching through the 911 system is provided by the Niobrara County Sheriff's Office 911 Center. This dispatch center provides emergency dispatching services for all emergency services organizations within Niobrara County, including: two law enforcement agencies, Niobrara County Sheriff's Department and Lusk Police; two fire departments, Lusk Fire Department and Niobrara County Rural Fire District; and one EMS agency, Lusk-Niobrara Ambulance Service (LNAS). The Town of Lusk pays \$80,000 annually for the dispatching services provided to their Police Department, Fire Department and Ambulance Service.

Niobrara County utilizes RIMS as their computer-aided dispatching (CAD) software. When functioning at full capacity, RIMS sends alerts to responding agencies via radio and cellular

devices when emergency calls are received. Interviews for this report indicated statewide difficulties with RIMS. Certain interruptions to the links providing these notifications mean that extra software and applications are often required.

Due to geographic challenges to cellular coverage in parts of Niobrara County, LNAS has opted to have all members carry hand-held radios. As an additional notification method, Niobrara County dispatchers notify ambulance team members of emergency calls via the CodeRED application.

Thus, Niobrara County dispatchers currently employ three notification methods when alerting an agency of a request for emergency response. These are notification by radio communication, RIMS, and the CodeRED application.

This study found LNAS's chute times acceptable based on the feedback received. Generally, the ambulance is enroute to the emergency scene within 3 to 4 minutes after receiving notification. Rarely is the initial crew not available for a call. Significant delays in response result only when requests are received when the initial crew is committed on another call. The nearest mutual aid service to Niobrara County is approximately 45 miles away.

First Response

Niobrara County has limited first response resources. Members of LNAS, living in various areas of Niobrara County, maintain medical kits up to their level of licensure and serve as the first responders for the county and for the ambulance service. The Niobrara County Rural Fire District is available to respond for extrication, lift assists and other rescue operations. Niobrara County Sheriff's Office deputies will respond on all emergent calls when available, as will the Town of Lusk's Police Department.

Ground Ambulance Service

LNAS is the only ambulance service in Niobrara County, and the entire county is its 911 response coverage area. Niobrara County encompasses 2,625 square miles and has a population of approximately 2,350 residents.

Air Medical Service

Air medical support is not readily available in Niobrara County. The closest helicopter ambulance services are located in Casper, WY, or Rapid City, SD – all 100 miles away or further. Given these distances, requesting a scene flight is not considered an option for emergency calls in Niobrara County. Helicopter and fixed-wing ambulance services do provide transport to patients from Niobrara Community Hospital to tertiary care centers in other communities.

Receiving Facilities & Other County Healthcare Resources

Niobrara Community Hospital is a critical access hospital based in Lusk, which receives all patients transported from scenes of emergency calls in Niobrara County. The hospital is a combined facility with a long-term care center. In total, there are 24 beds; 18 of these are in the long-term care center, and 6 beds are dedicated to the hospital. From the description received, there may be opportunities to flex the bed count to accommodate patients needing care outlined under these parameters (swing beds).

With limited capabilities, Niobrara Community Hospital often has the need to transfer patients to facilities with higher levels of care. The number of ground transfers can be up to ten (10) per month, and air transports are approximately one (1) per week. The primary destination for transfers is Casper, Wyoming. Occasional transfers to Cheyenne also occur as specialty transfers to the University of Colorado.

Mobile Integrated Health

Mobile Integrated Health or Community Paramedicine is not available today in Niobrara County.

EMS Education

LNAS offers scholarships for people interested in obtaining their EMT certification. Additionally, continuing education services have been purchased through EMS 1 and are currently being set up for all members. LNAS, as well as Wyoming Life Flight, provides in-person continuing education for all members.

EMS System Oversight

The Town of Lusk has added ambulance operations to the position description of one of its employees. In this way, the ambulance director reports to the Mayor of the Town of Lusk. This added responsibility is a paid position, though compensation is less than \$5,000 a year. The director of LNAS is a non-licensed member of the service and fills the role of driver when available. The spouse of the paid director is one of the primary EMTs and, per descriptions received, provides support for daily operations in both operational and business areas of the service.

Clinical oversight is provided by Dr. Joleen Falkenburg. Dr. Falkenburg expresses a high degree of confidence in the level of care provided by members of LNAS today. Dr. Falkenburg stated she does not review written patient care reports as part of her role as Medical Director. She does have limited interaction with service leaders and has been present for a few of the crew meetings. She orders all medications and signs the appropriate DEA forms for all controlled substances.

How the EMS System Currently Works

LNAS is the sole ambulance service in Niobrara County. In total, there are ten (10) members on the roster, and six (6) of these are described as being active. Of the active members, two (2) are drivers only and have no certification. The remaining four (4) are EMT or EMT-I certified. When on the call, an IEMT can administer certain medications in Wyoming, provided the Medical Director approves.

All crew members carry a hand-held radio which serves as the primary means of notification for requests for service. Once a request for service is received, crew members communicate between themselves via the radio until a full crew has been secured. Once a crew has been established, notification is made to Niobrara County Sheriff's dispatch. Chute times are routinely in the 3-to-4-minute timeframe for the initial call. Notification is sent via the RIMS CAD system, CodeRED application and via radio.

When calls are received in the Lance Creek area (NW portion) of Niobrara County, LNAS team members residing there are requested via cellular and radio to first respond. If other first

response is needed, Niobrara County Sheriff and Lusk Police will respond if available. Lusk Fire and Niobrara Rural Fire District will also respond if requested.

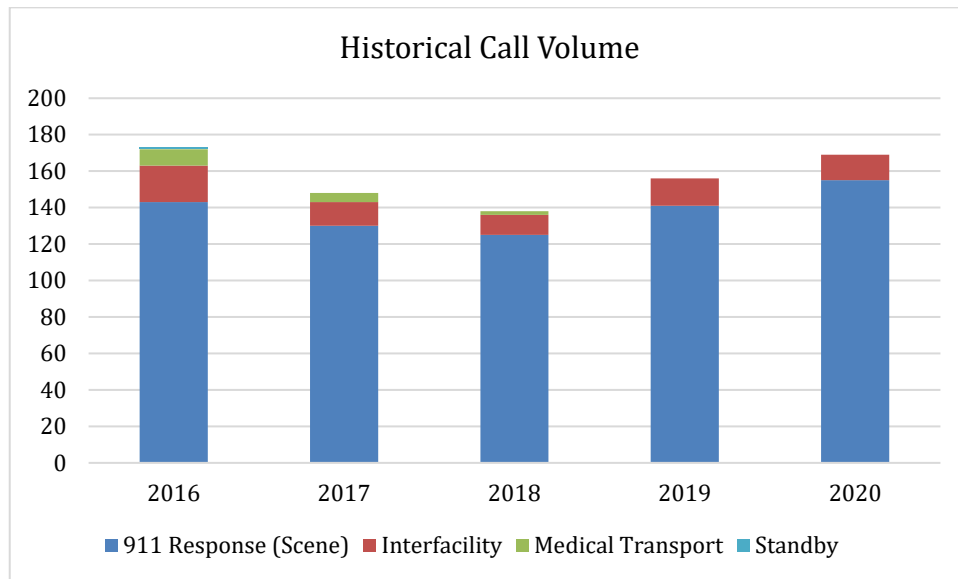
Transports from scenes of emergencies are to Niobrara Community Hospital. LNAS rarely does inter-facility transports, completing approximately one (1) inter-facility transport per month. If ground inter-facility transportation is needed, services from Douglas or Casper, WY are requested for these transfers.

Crew members complete their patient care report electronically in the WTRS report format. Crew members understand these reports are to be done as soon as possible (within 24 hours) of the time of call. This goal is being met today.

Billing for services is completed by Western Medical Management of Sheridan, WY. Representatives of the billing agency access WATRS to obtain billing information from runs completed by LNAS.

Call Volume

LNAS responds to approximately 184 requests for service annually. Of these requests, 14% are for inter-facility transports; 78% are for emergency responses within Niobrara County; and the remainder of requests are for standby coverage at events or sporting activities, or the transportation of medical crews to and from the airport.



	2016	2017	2018	2019	2020	2021
911 Response (Scene)	143	130	125	141	155	194
Interfacility	20	13	11	15	14	10
Medical Transport	14	7	8	8	11	8
Standby	3	1	2	2	4	10
Total	180	151	146	166	184	222

IV. Description of Lusk-Niobrara Ambulance Service, Lusk, WY

Historical Development

Lusk-Niobrara Ambulance Service (LNAS) functions as a department within the Town of Lusk, WY.

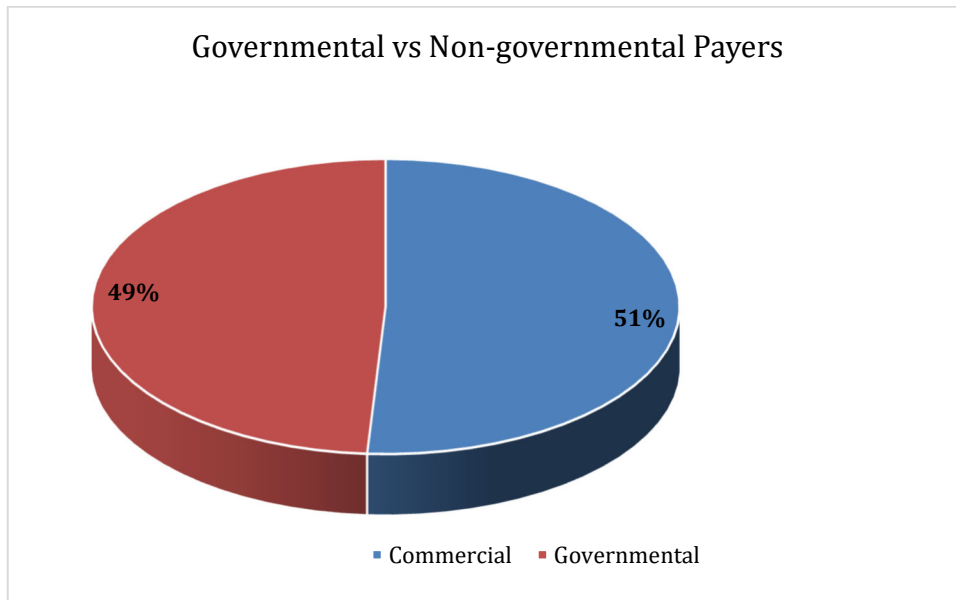
Internal Structure

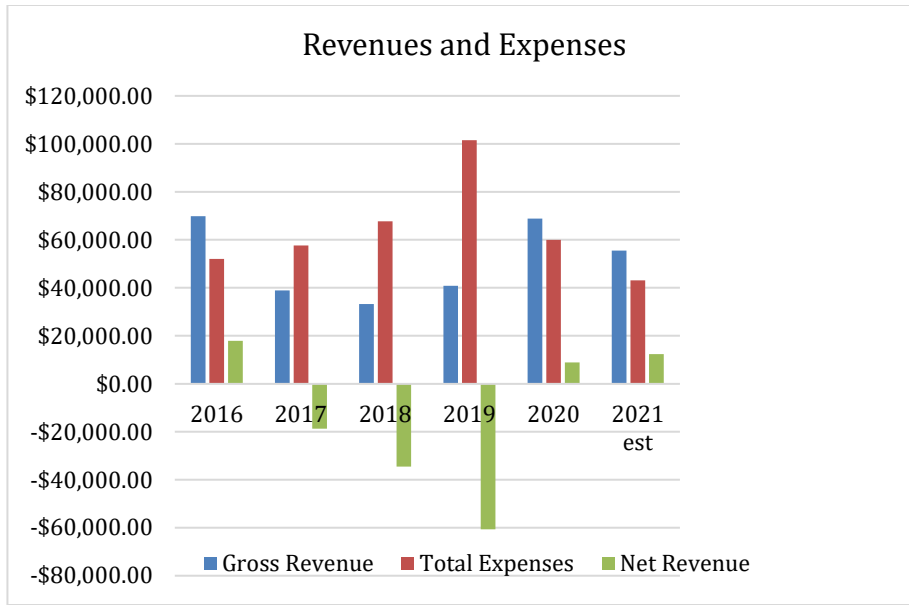
Data gathering for this report encountered an entity separate from but within LNAS and described as a “not-for-profit organization.” The entity was mentioned over the course of this study, and while it may be outside the scope of this review, we recommend it be examined by the proper officials to assure compliance with IRS rules and reporting requirements. No alerts were raised for improper fund usage; however, organizational structure, accounting practices and direct ties to LNAS are obvious, and risk is present.

Financial Structure

LNAS is a municipally owned ambulance service with much of its operational revenue coming from reimbursement through Medicare Part B on a July 1 through June 30 fiscal year.

LNAS’s payer mix is, as reported by hospital billing personnel, roughly 51% commercial payers and 49% governmental payers (such as Medicare, Medicaid and the Veterans Administration). This combination typically results in 51% reimbursement per claim. Said differently, that means for every \$1.00 billed, LNAS receives \$0.51 in return. Part B ambulance providers were placed on a fee schedule by Medicare in 1997. This schedule often results in Medicare reimbursement that can be under the operating costs of the ambulance service.





	2016	2017	2018	2019	2020	2021 est
Gross Revenue	\$69,864.42	\$38,881.06	\$33,208.06	\$40,832.29	\$68,829.27	\$55,481.98
Total Expenses	\$52,014.11	\$57,636.77	\$67,725.12	\$101,501.65	\$59,947.68	\$43,105.63
Net Revenue	\$17,850.31	(\$18,755.71)	(\$34,517.06)	(\$60,669.36)	\$8,881.59	\$12,376.34

Except for the service director position, which is nominally compensated, the staff of LNAS are volunteer employees of the Town of Lusk. Like many rural ambulance services primarily staffed by volunteers, LNAS does not account for the true costs of providing EMS. To fully understand the finances and financial resources of LNAS, one must account for the volunteer labor – or subsidy – provided to Niobrara County by individuals willing to provide EMS labor for nearly free.

An ambulance service in the state of Wyoming is required by law to have at least two staff members on every ambulance transport. One of the two members must be at least an EMT. To account for volunteer labor, a calculation is used that references the value of a volunteer hour in Wyoming as determined by the Bureau of Labor Statistics. This number represents, in this case, what LNAS would need to pay one full-time employee with benefits and all associated payroll costs and taxes.

The value is multiplied by two individuals, 24 hours a day, 365 days a year, and results in a total labor cost of \$456,396 a year. The true labor costs for just one ambulance and ambulance location are shown below.

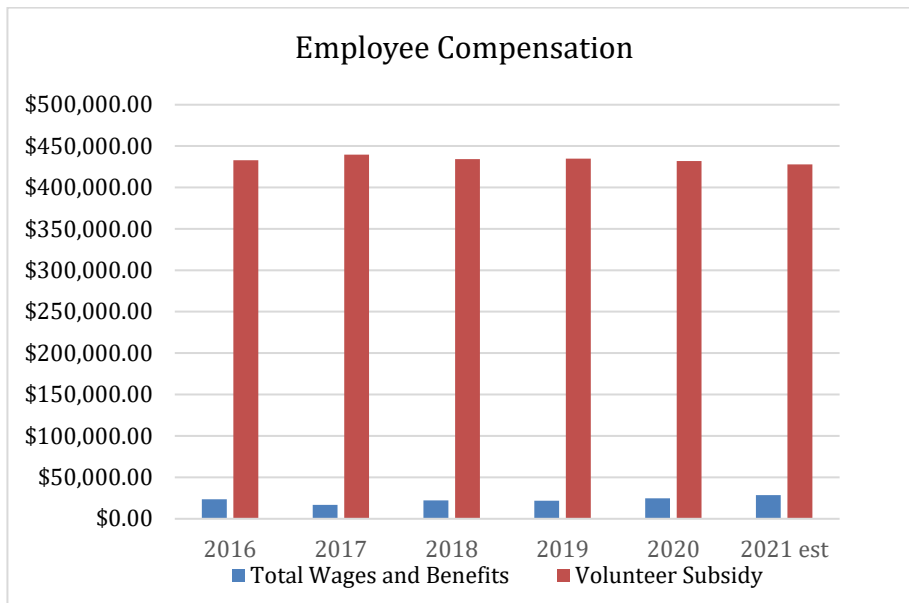
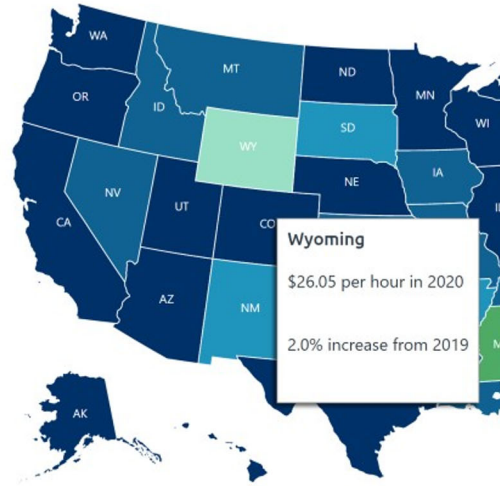
Determining True Labor Costs

2 people
 24 hours a day
 365 days a years
 \$26.05 value of volunteer hour in WY
 1 truck

\$456,396.00 cost per truck per year

\$26.05 breaks down to:
 - \$18.24 hourly wage
 - \$7.81 hourly benefit

National fulltime comparisons per year
 - 1 ALS Ambulance: \$1 to 1.2 Million
 - 1 Intermediate Ambulance: \$750,000
 - 1 BLS Ambulance: \$500,000



As illustrated above, there is a large gap between the current salary expenditures (illustrated in blue) and what would be required if the system did not rely on volunteer labor (illustrated in red). The gap is roughly \$432,000. As recruiting and retaining volunteers become more and more difficult, LNAS will likely need to address this gap to ensure the organization remains sustainable.

It may also be important to reconsider LNAS's rate structure when considering its finances and financial resources. LNAS's primary revenue source is fee-for-service, specifically billing for treatment and transportation; thus, it is critical the organization's rates match its true expenses. Today, LNAS's rates do not appear to match its true expenses. For consideration, Figure 10 below shows LNAS's current rates compared to national averages:

Fig. 10

Billing Levels	Current Rates	National Averages
Mileage	\$30.00	\$30 - \$40
ALS non-emergency	\$900.00	
ALS emergency	\$900.00	\$2,500 - \$3,500
BLS non-emergency	\$700.00	
BLS emergency	\$700.00	\$1,000 - \$2,000
ALS2 emergency	\$900.00	\$3,000 - \$4,000
Specialized Critical Transport (SCT)		\$3,500 - \$4,500

Historical Town of Lusk contributions to LNAS amounts:

- 2017 – \$50,000.00
- 2018 – \$74,000.00
- 2019 – \$62,970.00
- 2020 – \$40,000.00
- 2021 – \$65,000.00

Equipment, Facilities & Vehicles

Ambulances:

- Unit # MS55 2003 Wheeled Coach Ford F350 4X4 13,691 miles
- Unit # MS86 2006 MedTec Ford F350 4X4 52,236 miles
- Unit # MS54 2015 AEV Ford F350 4X4 21,594 miles

At the time of this assessment, the overall condition of ambulances was found to be good. Ambulances are clean, and equipment appears properly stored and well maintained. One ambulance, Unit #MS55, was described as expensive to run, costing a lot in repairs each time it is used.

Equipment:

Equipment appears to be updated, well maintained and clean. One area of great concern is the storage and monitoring of controlled substances. In one ambulance, the controlled substances were found to be stored in a non-secured cabinet, in a bag with a numbered lock that had been breached. The medications in the bag were expired, and some had been expired for months. Service leadership checked other medication bags and found similar expiration dates.

Facilities:

Today the ambulance facility meets current needs. The apparatus area is sufficient for the three ambulances as well as provides storage for specialty vehicles belonging to other emergency services agencies. The office/crew area provides spacious meeting/training

capacity and some desk space for leadership to work from. Two bathrooms and a sink and refrigerator area provide other necessities.

Any changes in staffing design or leadership structures would necessitate discussions on private crew quarters, adequate kitchen facilities and office space for service leadership.

Clinical Care, Medical Direction & Quality Assurance

Today, there are no formal or structured meetings between the Medical Director and ambulance leadership. Meetings are held when necessary and as issues arise. Interviews did not find any concerns with care being provided.

Quality Assurance is not part of the review process of the patient care reports. Reflecting the primarily volunteer nature of the agency, time to dedicate to this area is not afforded in the current job description of the director.

V. Key Findings

Finding 1: EMS is a vital and desirable element of healthcare and quality of life.

In all interviews conducted as part of this assessment, it was clear that EMS is a desired and expected component of life in Niobrara County. Respondents spoke positively about their impression of the quality of care provided while also expressing a true appreciation not only for the service, but for the people providing care.

Finding 2: Finding and keeping more of the right people to hire is, and will likely continue to be, a challenge.

Today, a small number of people carry the entire burden of staffing and responding for LNAS. This is not only unfair but unsustainable. In addition, the service and the community must consider the limitations of the volunteer model. Assuming a continuous, adequate supply of volunteers into the future is likely unreasonable. Other staffing models should be considered, as well as collaboration with the community hospital for staffing and providing inter-facility transports.

Finding 3: There is a lack of consensus around specific issues regarding EMS in Niobrara County, such as: Who funds it? Who ensures the provision of service(s)? Who governs it? Who operates it?

Today the Town of Lusk provides LNAS the required personnel, such as the ambulance service director and volunteers, along with an annual subsidy to offset losses. LNAS provides service for the entirety of Niobrara County, not just within the municipal boundaries of Lusk. This real or perceived inequity has raised questions around who should be funding EMS, who should be governing it, and if it is a county-wide service, who should be the provider of the service. Opinions vary, resulting in a lack of clarity for the organization.

Finding 4: There is perceived injustice in the distribution of costs and who bears the financial burden of providing EMS in Niobrara County.

As mentioned above, today, one community bears the full financial and operational burden of providing EMS for the entire county. Many interviewees for this study reported feeling this to be unfair to the taxpayers of the Town of Lusk.

Finding 5: There is broad community agreement about the quality of the clinical care provided by Lusk Niobrara Ambulance Service.

Without exception, all interviewees inside and outside of healthcare spoke warmly and positively about the quality of care provided. It was noted that while LNAS is an intermediate-level ambulance service, few if any advanced treatments and procedures are performed. Ambulance personnel reported hesitancy, due to the low call volume and infrequency of performing low volume, high risk treatments and procedures, to use advanced skills even when licensed to do so.

Finding 6: The current structure and accountability for duties are unclear and lacking.

Not unlike many other rural ambulance services across Wyoming and the nation, LNAS operates, at times, more like a social organization, or club, than a business. This is not to say the organization and its members are not dedicated and committed professionals providing care to those in need of out-of-hospital emergency medical services; instead, it refers to levels of participation in social organizations, which tend to be more voluntary and selective than in business organizations.

LNAS needs to find a balance between the stiff and strict rules common in the business world and the more fluid accountability of social organizations, so that it can create an ambulance service where expectations are high, and those expectations are fairly, appropriately and consistently enforced. The result should be a fun, friendly, family-like culture with minimal drama.

Finding 7: LNAS appears to be on the brink of collapse based on its current roster numbers and the heavy burden carried by a few members.

At the time of this assessment, LNAS had less than six (6) active personnel. This means that less than six individuals could be counted on to respond when emergency requests for services are received. Of those less than six, one (1) individual, whose role is driver, responded to nearly 100% of all emergency requests for services. LNAS's leaders acknowledge that were it not for this one driver, LNAS likely would not be able to respond to most of their requests for emergency response.

LNAS's reliance on one individual is not sustainable. Thousands of reasons could prevent one individual from responding, either in the short-term or long-term, resulting in the failure of the service.

Finding 8: LNAS, as operating today, is at risk of missing calls.

As detailed above, the organization's reliance on one individual is not sustainable and constitutes an unacceptable risk in a 24-hour-a-day, 365-days-a-year emergency service.

Finding 9: Revenues are not being maximized.

While the organization has the financial resources it needs to meet current expenses for a mostly volunteer workforce, there appears to be a missed opportunity to bring in additional revenue. Rates charged do not reflect and account for the true costs of the organization. To determine rates, divide the true cost of the organization by the total call volume. Take this number multiplied by the average amount collected per call to arrive at an understanding of the rate needed to break even. While the resulting number may not be reasonable to charge, it does shed light on the true rates needed to support an ambulance service on revenue alone.

Additionally, revenue is missed due to LNAS not providing inter-facility transfers. Many ambulance service organizations receive a majority of their revenue from inter-facility transfers. The staffing required to provide inter-facility transfers could support the staffing needed for 911 coverage.

Finding 10: Collaboration with the local critical access hospital could strengthen sustainability.

A hospital has many of the systems, departments and resources that most rural, remote and frontier ambulance services find difficult to provide, such as staff dedicated to human resources, payroll, accounts payable, accounts receivable, maintenance, biomedical equipment, etc. There may be opportunities for both LNAS and Niobrara Community Hospital through building a stronger relationship.

While our assessment is not recommending a change in ownership, it is important to note that federally designated Critical Access Hospitals (CAHs) that meet the “35-mile rule” (i.e. they are the only ambulance service within 35 miles) are reimbursed by Medicare for ambulance charges at 101% of billed costs.

Finding 11: The inability to staff transfers is affecting patients, the hospital and LNAS’s finances.

Hospital personnel report approximately six to seven (6 – 7) inter-facility transfers per week, with the common destination of Casper, Wyoming, roughly 100 miles away. Today, LNAS provides around 10 inter-facility transfers a year, leaving 300 or more to be provided by an outside agency. Using current LNAS rates, the potential gross revenue from these transfers is roughly \$1,170,000. Assuming the rate of return is similar to that for 911 service, which is 51%, the revenue after discounts and allowances would be roughly \$597,000. If LNAS increased its rates to more closely match its real costs, the revenue gain could be substantial, especially in the area of mileage.

A financial analysis along with a business plan would likely show that the revenue produced by providing inter-facility transports would offset the cost of the needed staff required to provide said services. In addition, the required staff to provide inter-facility transfers, likely partially-paid or paid full-time, would bolster staffing for 911 responses. Even considering a three to four (3 – 4) hour roundtrip, the estimated 300 inter-facility transfers a year would provide capacity for staff to support 911 response coverage.

Finding 12: Hiring a full-time leader could have a significant impact on current issues.

Many organizations incorrectly link an ambulance service’s call volume with the amount of leadership time and personnel the service needs. In rural, remote and frontier ambulance

services, call volume and leadership time are likely inversely related. The lower the call volume, the more time and attention the organization needs.

Leadership time is needed to balance the needs of the volunteer employee with the expectations (operational, clinical and cultural) of the ambulance service. Leaders need to navigate precarious waters created by recent changes in volunteerism, expenses, finances and community expectations. Lastly, and most importantly, the leader sets the tone and creates the culture that attracts and retains volunteers/employees. It is unlikely that LNAS will be successful in navigating the difficult waters it faces should it embark on launching and managing inter-facility transfers and personnel, without a prepared, educated, full-time leader.

VI. Recommendations

Recommendation 1: Communicate a powerful urgency, reason and message that conveys what changes are needed to ensure EMS is sustainable in Niobrara County.

Change, of any kind, is successful when several key components are in place. These components include items such as communicating urgency, building a coalition and having a vision for the final product. For EMS in Niobrara County to be long-term sustainable, change will be required. People will need to know, and believe, that the way EMS has been provided for the last 40 plus years is no longer viable, and that without urgent action, EMS could begin to fail. Creating urgency without using fear will be the key to creating change within EMS in Niobrara County.

Recommendation 2: Create a community-wide shared vision for EMS in Niobrara County that includes all stakeholders and operational and clinical expectations. The visioning process should also be a time to gauge the community's willingness to fund the vision.

Building on the sense of urgency and messaging created in Recommendation 1, gather community stakeholders to create a shared vision for the future. This new vision should have a clear statement outlining clinical and operational expectations, as well as governance and financial structures. The successes and failures of area-wide or countywide consolidations illustrate how strong or fragile a system can be depending on its level of transparency and upfront agreements.

Recommendation 3: Invest in the role of leader.

Investing in a full-time leader for LNAS is one of the most significant actions taken to strengthen the sustainability, reliability and long-term financial viability of the organization. The best and most reliable path to negotiating the dangerous waters facing LNAS is a full-time leadership position with the skills and talents of EMS leadership and management.

Recommendation 4: Maximize current revenues.

There are missed opportunities for additional revenue for the organization. Rates charged for services should be based on true costs, accounting for volunteer labor according to national averages. Special attention should be paid to the mileage rate. Revenue received from providing inter-facility transfers would likely offset the required operational expenses, such as full-time staff, as well as bring in enough revenue to offset some or all the costs associated with 911 full-time staffing.

Recommendation 5: More deeply understand and accept the needs and limitations of the current EMS system.

Initiate a process to more deeply understand what is desired by the community, what is financially sustainable, how to fund the system and how to govern the system while maintaining strong partnerships. Use deep listening, and learn to imagine what is possible. This process must also hold a mirror up to what is desired and ask what those that might use the system are willing to pay for it. Without balance and acceptance, the system will fail.

Recommendation 6: Ensure all who benefit from a county-wide EMS system help support the county-wide EMS system.

The EMS system in Niobrara County will not be long-term sustainable if only one community is expected to fund the system on behalf of the entire county. In order for the system to work well, and to make the needed transitions from volunteerism to fairly paid personnel, all users and benefactors of the system must contribute. Today, only the Town of Lusk pays for the ambulance service.

There is a perception that Niobrara County does financially support the ambulance service by providing and funding the county-wide communication center. The data presented during the assessment seems to contradict this, for it shows the Town of Lusk pays \$80,000 annually for dispatching services for their police, fire, and EMS.

Recommendation 7: Consider a partnership model between the three largest entities: Niobrara County, the Town of Lusk, and Niobrara Community Memorial Hospital.

As stated in Recommendation 6, all users and benefactors of the system must contribute to it in order for it to be long-term sustainable. A collaborative model between the three largest entities – the Town of Lusk, Niobrara County, and Niobrara Community Memorial Hospital – would likely provide the strongest foundation for sustainability. Each entity contributes to the model to ensure the provision of EMS will be available now and into the future.

Recommendation 8: Invest in providing inter-facility transfers.

The revenue generated by providing inter-facility transfers would likely support the required staffing, as well as bolster capacity to respond to 911 calls. Most ambulance services receive the majority of their funding from inter-facility transfers. This funding is then used to support other parts of the operation, such as 911 staffing, equipment purchases and capital improvements.

Inter-facility transports are also a critical function of the continuum of care in rural communities. When a patient is in need of care not offered at a local community hospital, an

ambulance transfer is necessary to safely move the patient. When a local ambulance is not available, another must come from some distance away, assuming one is available. The resulting delay in care has negative effects on the patient, his or her condition and the hospital's ability to care for others when clinicians, the room and equipment are occupied waiting for the transfer.

Recommendation 9: Use the revenue generated from inter-facility transfers to subsidize county-wide Advanced Life Support 911 services.

LNAS staffing today is not sustainable, even in the short-term. Funds will be needed to transition to a more sustainable and reliable staffing model.

While these funds could come from public dollars, we recommend first maximizing revenues available to the system through services such as inter-facility transfers. A rough proforma shows inter-facility transfers could fully fund the necessary costs of the transfers as well as provide additional revenue to cover some or all the costs associated with 911 staffing.

Recommendation 10: Structure the agency more like a business and less like a social organization, while maintaining the best of both models.

Today LNAS operates more like a club than a business. Club-like cultures are common among rural ambulance services in Wyoming and across the nation. The term "club" refers to the tendency of social organizations to leave the level of participation up to individuals, not the organization. "Club" should not be taken to mean the organization and its members are not dedicated and committed professionals providing care to those in need of out-of-hospital emergency medical services.

LNAS should work to find a balance between the stiff and strict rules common in the business world and the more fluid accountability of social organizations. The result should be a culture of high expectations that are fairly, appropriately and consistently enforced, and which is conducive to the development of a fun, friendly, family-like environment with minimal drama. The resulting organization will be one that finds recruiting and retaining personnel to be easy.