

# SafeTechSolutions

Final Report

**ASSESSMENT  
OF  
EMERGENCY MEDICAL SERVICES  
IN  
JOHNSON COUNTY, WYOMING**

February 2020



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## Executive Summary

As operating today, Emergency Medical Services (EMS) in Johnson County, Wyoming, appears to be sustainable long term. Of special note, several components of the system should be considered as best practices for ensuring the sustainability of a low volume EMS system. Also, of note is the dependence of the system on public support. Over three-quarters of the system's operational resources come from some form of public dollars. Viewed through a positive lens, this lends the belief that, as validated by public comments, the community is willing to invest in their EMS system. Viewed through a lens of concern, this reliance could raise concerns for sustainability of the EMS system if the resource decreases, such as a change in valuation of a mil or a community that chooses to invest less in the EMS system.

The EMS system in Johnson County, like EMS systems across Wyoming and the nation, is facing challenges that could best be described as the convergence of several storms, i.e., the perfect storm. First, volunteerism across the area, across the state, and across the nation is declining at an alarming rate. Second, the regionalization of healthcare is demanding more and more patients be transported further distances, resulting in ambulance services already under strain from staffing issues needing to ask more of their personnel. Third, the ever-increasing cost of providing EMS along with the ever-decreasing reimbursement for services result in limited financial resources available to maintain and grow EMS organizations.

Early on, Johnson County, Wyoming, recognized the importance of EMS to the community and how a systems approach could aid in the long-term sustainability of EMS in their county. The Johnson County Rural Health Care District (JCRHCD) has many roles in the EMS system in Johnson County, such as advocating for EMS and accounting for the public dollars spent on EMS. Due to the role of accounting for public dollars and the role of contract holder with Buffalo EMS, JCRHCD has at times found itself in disagreement with Buffalo EMS. Interviews with community members, those involved in the JCRHCD board, and those directly providing the out-of-hospital care in Johnson County revealed challenges the two parties are facing — challenges that, left unattended, could jeopardize the entire EMS system the area has become so dependent on over the past decades.

In Buffalo, the use of tax dollars in partnership with a private business has provided benefits to the community by sharing the costs of providing EMS and ensuring the need for full-time employees is met with competitive living wages. However, others view the use of public dollars without full transparency as unacceptable. Interviews in Buffalo found this to be the primary issue that is dividing the citizens on the topic of EMS. This disagreement and the community's impression that they need to side with one party or the other has the potential to jeopardize the major source of system funding — community tax dollars.

In Kaycee, the JCRHCD demonstrated inspired leadership when it made the investment in a leadership position to assist the organization as it manages the

challenges associated with finding and keeping volunteers. Unlike most rural, volunteer EMS organizations of its size, Kaycee EMS is not only surviving, it is thriving. While it continues to struggle with finding and keeping people, it is not due to its equipment, culture, or leadership. On the contrary, the culture was found to be warm and inviting, the facilities and equipment were excellent and spotless, and the leader was prepared, thoughtful, and excited for the future. This investment of leadership should be considered as a best practice by other rural EMS organizations.

Buffalo EMS provides a creative and innovative model to provide two regularly staffed ambulances, with the ability to surge two additional ambulances with full-time personnel earning competitive living wages. This is done through a unique partnership with another owned business, where part of the labor cost is carried by Buffalo EMS and reimbursed through JCRHCD and part is carried by the other business. Equipment, facilities, and personnel were found to be adequate and meeting the needs of the community and EMS system. The desire for transparency of the costs reimbursed by JCRHCD has been, and continues to be, a source of tension between the organizations (Buffalo EMS and JCRHCD). This tension is known by the community and is often played out through public and social media.

An external assessment provides an opportune time to discuss the expectations of the board, the ambulance providers, the communities, and ultimately the taxpayers of Johnson County. To assist, SafeTech Solutions has identified seven recommendations outlined here and explained in greater detail in the following pages. These recommendations are:

1. Create a community-wide shared vision for EMS.
2. Resolve disagreements between Rural Health Care District and Buffalo EMS.
3. Rural Health Care District and Buffalo EMS should jointly develop a new contract.
4. Unblend finances and operations between Rural Health Care District and Buffalo EMS.
5. Maximize current revenues.
6. Continue to invest in Kaycee EMS.
7. More deeply understand and accept the true needs of the current EMS system.

## I. Introduction & Methodology

SafeTech Solutions, LLP was contracted by the Wyoming Office of Emergency Medical Services (EMS) to conduct an assessment of the EMS system in Johnson County, Wyoming. The system has three major components: the Rural Health Care District, Buffalo EMS, and Kaycee EMS. 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 for many years through its EMS Leadership Academy and previous assessments throughout the State of Wyoming.

The goals of the Johnson County assessment were to:

- Evaluate the sustainability, reliability, and long-term survivability of EMS in the combined areas from a systems approach;
- Look for system components that are working well; and
- Make recommendations for change and improvement that would aid in the long-term sustainability, reliability, and survivability of EMS in Johnson County.

*Note: Each individual ambulance service was not assessed in detail; rather, they were evaluated with an eye toward how the system operates and what areas strengthen or jeopardize the system's long-term sustainability, reliability, and survivability of EMS in Johnson County.*

The scope of the assessment was limited and was not an audit of operations, finances, or clinical performance. Air medical service was not part of the assessment. All data was provided by the services themselves; SafeTech Solutions attempted to validate the information and, when needed, asked for supporting data to validate or invalidate the data provided.

### **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, interviews, and, as needed, community meetings. Two consultants visited Johnson County to review documents and data, conduct interviews, and assess operations. In addition to broadly evaluating the ambulance organizations (organizational structure, leadership, and operations).

Over forty hours of in person and phone interviews we conducted. These interviews included three county commissioners, five members of the Johnson County Rural Health Care District Board, ten individuals representing Buffalo EMS, six individuals representing Kaycee Ambulance Service, three representatives of Wyoming Life Flight, law enforcement officials from Johnson County Sheriff's department, Buffalo Police Department and communication center, Wyoming State Patrol, eight

individuals including clinical and executive leaders from Johnson County Healthcare Center, elected officials from Kaycee and Buffalo Wyoming, local fire department and fire district leaders, and twelve community residents, including the Governor of Wyoming

SafeTech Solutions paid special attention to the social, economic, demographic, cultural, and political issues in the wider area, carefully analyzing data and making its recommendations based on industry best practices, as well as what is meaningful, measurable, and actionable. This report summarizes the findings, key observations, and recommendations for the EMS system in Johnson County, Wyoming.

To the best of SafeTech Solutions' abilities, the data has been verified and validated and believed to be materially correct as presented by the leaders of the current system.

## II. Overview of Johnson County, Wyoming

Johnson County, Wyoming, sits in the upper North Central part of the state of Wyoming. Originally created in 1875 and named Pease County after Dr. E.L. Pease, it later was renamed Johnson County after Cheyenne attorney E.P. Johnson in 1879.<sup>1</sup>

The plains, foothills, and mountains that make up Johnson Country were the site of a variety of events over its early history, including tensions between rival tribes of plains horsemen, attacks by Native Americans on wagon trains and forts, and the rise of the cattle barons that coincided with the decline of open-range cattle empires.<sup>2</sup>

A major historical event in the area was the Johnson County War, which took place from 1889 to 1893. This war erupted between area cattle companies and small stock growers.<sup>3</sup> The cattle companies claimed the area settlers were engaging in cattle rustling, a serious crime. In actuality, the settlers were in competition with the cattle companies for land, water rights, and livestock in the area.<sup>4</sup>

The ranchers hired gunmen to invade the county, which in turn aroused the ire of the locals and caused trouble for the settlers living there. Eventually, the actions of the hired guns forced state lawmen to bring in the United States Cavalry in an attempt to put a stop to the fighting.<sup>5</sup>

A part of the Powder River Country, electricity didn't reach the more rural areas of Johnson County until the late 1940s. In reality, early attempts to bring electricity to the region failed as the demand for power was few and far between. With the development of oil fields in the area, this demand did increase. It would take roughly 20 years for the Tri-County Electric Association (TCEA) to become a success.<sup>6</sup> The coal boom in the late 1960s and early 1970s all but assured TCEAs success as the growth from supplying power to the coal mines in the region also brought in thousands of area residents as customers.<sup>7</sup>

As the region moved into the 21st century, oil and gas operations in the area raised the tax assessment to more than \$1 billion. This led to a dramatic increase in public

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<sup>1</sup> "The Origin of Certain Place Names in the United States" (Google Books):  
<https://books.google.com/books?id=9V1IAAAAMAAJ&pg=PA169#v=onepage&q&f=false>

<sup>2</sup> "Johnson County, Wyoming" (The Wyoming State Historical Society): <https://www.wyohistory.org/encyclopedia/johnson-county-wyoming>

<sup>3</sup> "No Duty to Retreat: Violence and Values in American History and Society" (Oxford University Press):  
<https://web.archive.org/web/20070929121632/http://www.oup.com/us/catalog/general/subject/HistoryAmerican/Cultural/?view=usa&ci=9780195045109>

<sup>4</sup> *ibid*

<sup>5</sup> *ibid*

<sup>6</sup> "Our History" (Precorp.coop): <http://precorp.coop/overview>

<sup>7</sup> *ibid*

infrastructure projects, such as water and sewer, new schools, and the most up-to-date courts, jail, and law-enforcement buildings.<sup>8</sup>

This investment in the infrastructure of Johnson County led to the area having some of the best schools in the region, especially in the county seat of Buffalo. Johnson County also offers area residents some of the best in medical care at the Johnson County Healthcare Center in Buffalo, which is a part of the Johnson County Hospital District.

Cities and towns in Johnson County, Wyoming, include:

### Buffalo

The city of Buffalo, which serves as the county seat of Johnson County, has seen an economic boom in recent years as a result of, in part, the increase in production of methane related to the coal bed methane-extraction process used throughout the Powder River Basin. In addition to energy production driving the economy, Buffalo has also seen an increase in tourism at the many recreational areas near the city, and it has always relied on agriculture as a part of its economy. This includes generational ranchers who raise sheep and cattle in the surrounding hills and plains.

### Kaycee

Smaller than Buffalo to the north, the town of Kaycee hosts a museum dedicated to preserving the rich history of the region pertaining to cattle ranching, including the history of the Johnson County War. Similar to Buffalo, Kaycee offers easy access to area wildlife resources and recreation. In addition, the town also relies heavily on agriculture and mineral exploitation as a big part of its economy.

## **Summary of Johnson County, Wyoming**

The Johnson County region offers unfettered access to nearby recreational areas for area residents, as well as a growing tourist population. The population of the area also sees a boost with the annual Johnson County Fair, held at the Johnson County Fairgrounds. This growing tourism trade presents exceptional challenges and opportunities when it comes to out-of-hospital EMS.

## **The Land**

Johnson County, Wyoming, is comprised of 4,175 square miles. Of that, roughly 4,154 square miles is land and the other 20 square miles is water.<sup>9</sup> The geography in Johnson County varies from high elevations in the west to sagebrush plains in the east. The Bighorn Mountains in the west reach an elevation of 13,167 feet at their highest point. The eastern part of Johnson County is made up of the Powder River

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<sup>8</sup> "Johnson County, Wyoming" (The Wyoming State Historical Society): <https://www.wyohistory.org/encyclopedia/johnson-county-wyoming>

<sup>9</sup> [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/counties\\_list\\_56.txt](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/counties_list_56.txt) (U.S. Census)



Basin, which has an elevation of around 3,670 feet<sup>10</sup> and runs from Northeast Wyoming to Southeast Montana.

The main waterway in Johnson County is the Powder River to the north, which is fed from small streams originating from the Bighorn Mountains. The three forks of the Powder River meet near Kaycee in the foothills of the Bighorn Mountains to the west, before flowing north into the adjacent state of Montana, eventually meeting up with the Yellowstone River. The area also contains many lakes and reservoirs that further feed the Powder River on its way to the north.

The northwestern part of Johnson County is occupied by Bighorn National Forest, which also contains the Bighorn Mountains and the foothills that surround them. Regardless of the higher elevations in the northwest, most of the county is rolling prairieland, which makes it perfect for raising livestock.

Only about 19% of the land in Johnson County is public land, 9% is state-owned land, and 12% of land is in the Bighorn National Forest. Roughly 60% of the land in the county is privately owned.<sup>11</sup>



Source: [Wikimedia](#)

The highest demand for public lands in Johnson County is for use as right-of-ways for pipelines that serve the oil industry in the region, power lines, and roadways used for the development of energy minerals in the county.<sup>12</sup>

## Transportation

Johnson County, Wyoming, has over 550 miles of county roads. The county is divided by Interstate 25 from the south, which intersects Interstate 90 at Buffalo, Wyoming. Interstate 90 comes in from the east and exits the county into Sheridan County to the north. Other major roadways in Johnson County, Wyoming, include U.S. Highway 16, which enters the county from Bighorn County to the west before passing through Buffalo and heading to the north, where it passes into Sheridan County.

State Road 191 branches off from U.S. Highway 16, heading south through Hazleton before connecting with Kaycee from the west. From Kaycee, State Road 1002 heads

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<sup>10</sup> "New Johnson County Land Wars" (WyoFile): <https://www.wyofile.com/new-johnson-county-land-wars/2/>

<sup>11</sup> "Wyoming Land Use Decisions: Western Powder River Basin Area" (Google Books): <https://books.google.com/books?id=gpMXDv1oyJoC&pg=PA7&lpg=PA7&dq=percent+of+land+in+johnson+county,+wy+which+is+public+land&source=bl&ots=A10vmjEYae&sig=ACfU3U1NndJFmcyCGrwhnHHopxCQWk-BVQ&hl=en&sa=X&ved=2ahUKEwizmeSG3K7IAhU0v54KHSyZDsYQ6AEwBXoECAkQAQ#v=onepage&q=percent%20of%20land%20in%20johnson%20county%2C%20wy%20which%20is%20public%20land&f=false>

<sup>12</sup> *ibid*

east and then turns sharply to the south, passing through Sussex and Linch, before entering Natrona County to the south. In addition, State Road 196 connects Buffalo to Kaycee in the south of the county. And while it is not known how many vehicle miles per capita there are on Johnson County roads, the county's close proximity to area National Parks does increase the flow of tourists, as well as residential traffic.

Johnson County has one main airport located to the northwest of the city of Buffalo. The airport has no control tower, but it does have two runways — one is 6,143 feet in length, and the other is 1,872 feet long. The airport gives travelers access to the nearby Bighorn National Forest. And while the airport usually only handles single-engine aircraft, it does handle about 100 aircraft operations per week.<sup>13</sup>

### **Land Use, Tourism & Industry**

Land use in Johnson County is predominantly in the areas of agriculture and the exploitation of minerals, mainly oil and gas.<sup>14</sup> In addition, residents and visitors can engage in hunting, fishing, and other recreational activities. The livestock raised in the county consists primarily of cattle, with some sheep also raised, primarily for their wool, especially around Buffalo.<sup>15</sup>

Like the rest of the state of Wyoming, one of Johnson County's main agricultural products is hay and alfalfa, which is used in part to help feed the large cattle population in the area.<sup>16</sup> While oil and other minerals are exploited in Johnson County, the main production lies in gas, with a vast majority located in the eastern

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<sup>13</sup> AirNav.com: <https://www.airnav.com/airport/KBYG>

<sup>14</sup> "Johnson County Comprehensive land Use Plan" (johnsoncountywyoming.org): [http://www.johnsoncountywyoming.org/jcco/wp-content/uploads/2017/09/jc\\_land\\_use\\_plan\\_mar05.pdf](http://www.johnsoncountywyoming.org/jcco/wp-content/uploads/2017/09/jc_land_use_plan_mar05.pdf)

<sup>15</sup> "Our Ranchers" (Mountain Meadow Wool): <https://mountainmeadowwool.com/pages/our-ranchers>

<sup>16</sup> "Wyoming Agricultural Statistics 2018" (nass.usda.gov): [https://www.nass.usda.gov/Statistics\\_by\\_State/Wyoming/Publications/Annual\\_Statistical\\_Bulletin/WY-2018-Bulletin.pdf](https://www.nass.usda.gov/Statistics_by_State/Wyoming/Publications/Annual_Statistical_Bulletin/WY-2018-Bulletin.pdf)

part of the county.<sup>17</sup> Outside of gas and oil, the top mineral commodities in Johnson County include uranium, manganese, and gold.<sup>18</sup>

Tourism is also a growing industry. The area's rich history and proximity to various National Forests makes it a prime stop for travelers seeking the beautiful rolling plains of the Old West. The area museums and its connection to the Wild West make Johnson County a favorite spot for travelers from both near and far.<sup>19</sup>

Other major businesses in Johnson County include the healthcare industry. The largest healthcare employer in Johnson County is the Johnson County Healthcare Center in Buffalo, which is a part of the Johnson County Hospital District. In addition, other areas of high employment in Johnson County include management, office, and administrative support occupations.<sup>20</sup>



Source: [Ghosttowns.com](http://ghosttowns.com)

## The People

The most recent data from the U.S. Census Bureau for Johnson County, Wyoming, has the population at 8,460.<sup>21</sup> This is a reduction of 109 from 2010 census numbers, or a 1.3% decrease.<sup>22</sup> The majority of residents in Johnson County live in traditional family households, which contain at least two or more people. Of those households, 71.9% are owner-occupied. Roughly 1,200 people live alone.<sup>23</sup>

Of the 8,460 people who live in Johnson County, 91.6% are white, 2.1% are of Hispanic or Latino descent, and 6.3% are of mixed or other racial heritages.<sup>24</sup>

<sup>17</sup> "Oil & Gas Activity in Johnson County, WY" (shalexp): <https://www.shalexp.com/wyoming/johnson-county>

<sup>18</sup> "Mining in Johnson County, Wyoming" (Diggings): <https://thediggings.com/usa/wyoming/johnson-wy019>

<sup>19</sup> "Johnson County Tourism Association" (Ultimate Wyoming): <http://www.ultimatewyoming.com/businessdirectory/buspages/sec5/JohnsonCnty.html>

<sup>20</sup> "Economy" (Data USA): <https://datausa.io/profile/geo/johnson-county-wy#economy>

<sup>21</sup> U.S. Census Bureau: <https://www.census.gov/quickfacts/johnsoncountywyoming>

<sup>22</sup> *ibid*

<sup>23</sup> "Household Types in Johnson County, Wyoming" (Statistical Atlas): <https://statisticalatlas.com/county/Wyoming/Johnson-County/Household-Types>

<sup>24</sup> "Race and Ethnicity in Johnson County, Wyoming" (Statistical Atlas): <https://statisticalatlas.com/county/Wyoming/Johnson-County/Race-and-Ethnicity>

Communities in Johnson County include the city of Buffalo and the town of Kaycee. Smaller, unincorporated communities in the county include Hazelton, Linch, Saddlestring, and Sussex.

Roughly 56% of the population of 8,460 live in one of the two incorporated towns. The other 44% of the population lives within the unincorporated areas of the county. Most of the population is centered around the city of Buffalo, which sits toward the north end of the county at the junction of Interstates 25 and 90.

### Johnson County, Wyoming's Incorporated Town Populations

Town	Population	Square Miles
Buffalo	4,465	4.48
Kaycee	290	0.45
<b>TOTAL</b>	<b>4,755</b>	

*Source: U.S Gazetteer Wyoming Home Town Locator (All figures are as of 2019)*

The residents of Johnson County are primarily working-age adults ranging from 20 to 64 years of age, with a median age of 45 years old. The population also includes approximately 2,100 children and roughly 1,700 elderly individuals (aged 65 and older).<sup>25</sup>

The population in Johnson County sees an influx of tourists from around the country each year. Tourism and travel-related spending in Johnson County totaled \$52.4 million in 2017 alone<sup>26</sup>, with visitors to the area seeking the area's connection to the history of the Old West. This increase in the population must be included when

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<sup>25</sup> "Age and Sex in Johnson County, Wyoming" (Statistical Atlas): <https://statisticalatlas.com/county/Wyoming/Johnson-County/Age-and-Sex>

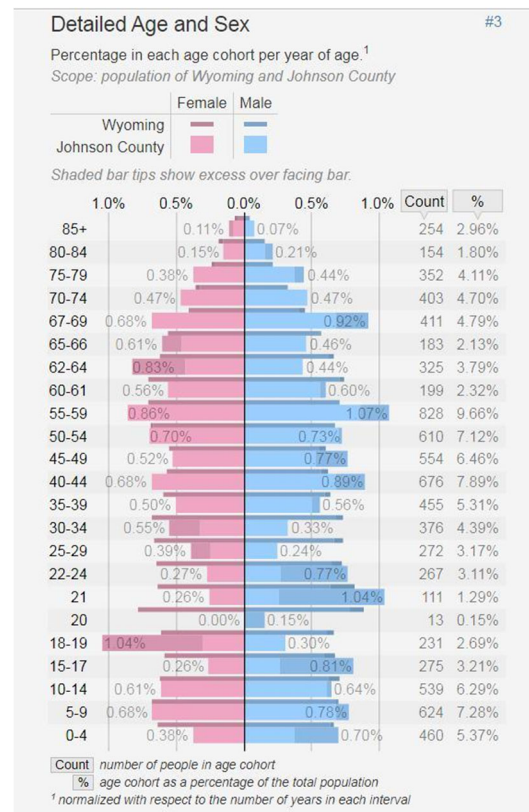
<sup>26</sup> "Longmire Days a Boon for Buffalo" (Buffalo Bulletin): [http://www.buffalobulletin.com/opinion/columns/article\\_ddc06cae-9b2f-11e8-99ed-a7387ba1078d.html](http://www.buffalobulletin.com/opinion/columns/article_ddc06cae-9b2f-11e8-99ed-a7387ba1078d.html)

considering the emergency medical resources needed, especially since tourists tend to use local EMS resources when away from home.

Overall, the state of Wyoming projects the population in Johnson County to increase from its current levels of 8,460 to 8,880 by 2030. This increase in population would likewise increase the demands on the county's EMS system.

## The Economy

The median household income in Johnson County, Wyoming, as of 2017, is \$52,415. This is a decline of 3.99% from the previous year's total of \$54,594.<sup>27</sup> This equates to about \$8,000 less than the median income in the state of Wyoming as a whole.<sup>28</sup> The largest share of households, 15.9%, had an income ranging from \$75,000 to \$100,000 a year. Around 16% of households reported an income greater than \$100,000.<sup>29</sup>



Source: [Statistical Atlas](#)

The number of individuals below the poverty rate in Johnson County, Wyoming, sits right at 9.9%.<sup>30</sup> This is actually lower than the state rate of about 11%<sup>31</sup> and an increase from 8.2% in 2010.<sup>32</sup>

As of August 2019, the unemployment rate in Johnson County was 3%.<sup>33</sup> This is down from 2009 levels when it was at 9.5%.<sup>34</sup>

The residents in Johnson County who have health insurance is at 85%,<sup>35</sup> and of those, roughly 46% have employer-provided healthcare.<sup>36</sup>

<sup>27</sup> "Household Income" (Data USA): <https://datausa.io/profile/geo/johnson-county-wy#housing>

<sup>28</sup> "Wyoming" (Data USA): <https://datausa.io/profile/geo/wyoming>

<sup>29</sup> "Housing" (Data USA): <https://datausa.io/profile/geo/johnson-county-wy#housing>

<sup>30</sup> "Johnson County" (Data USA): <https://datausa.io/profile/geo/johnson-county-wy>

<sup>31</sup> "Wyoming" (Data USA): <https://datausa.io/profile/geo/wyoming>

<sup>32</sup> "U.S. Census Bureau, American Community Survey" (U.S. Census Bureau): <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

<sup>33</sup> "Unemployment Rate in Johnson County, WY" (FRED Economic Data): <https://fred.stlouisfed.org/series/WYJOHN9URN>

<sup>34</sup> *ibid*

<sup>35</sup> U.S. Census Bureau: <https://www.census.gov/quickfacts/johnsoncountywyoming>

<sup>36</sup> "Health Care Coverage" (Data USA): <https://datausa.io/profile/geo/johnson-county-wy#health>

### **III. Overview of Johnson County, Wyoming, EMS System**

The following is a general overview of the EMS system in Johnson County, Wyoming. Any specific differences found between the operational sites located in Buffalo and Kaycee will be identified in detail below.

#### **Call Taking, Dispatch & Communications**

Both organizations are dispatched by the Buffalo Police Department, which serves as the Johnson County 911 Public Safety Answering Point (PSAP). Interviews with representatives of the PSAP reflected no concerns with lack of response by either Buffalo or Kaycee.

Today, dispatchers are not trained in Emergency Medical Dispatch and provide no pre-arrival instructions to 911 callers. Dispatchers do track call-specific times for the responding ambulance crews and provide call information sheets, which are printed at the station for the responding crews.

Efforts across the state to move to WyoLink have not been fully embraced by Johnson County. Reasons for this were described in a variety of ways and included concern over financial obligations for initial startup, as well as continued maintenance fees and coverage issues when traveling away from the interstate highways. Very High Frequency (VHF) communication remains the primary communication system for the majority of the emergent and non-emergent needs, with the exception of communications with the Wyoming State Patrol.

#### **First Response**

Emergency Medical Responders are limited across Johnson County. With two fire departments covering the county — Buffalo Fire covering the northern half and Powder River Fire District (Kaycee) covering the southern half — resources are limited. Fire departments will send assistance for motor vehicle crashes or other traumatic events when extrication may be needed.

Johnson County Sheriff's Department will respond to all calls if they are available and close to the call. Buffalo Police will also respond to emergency calls in the City of Buffalo if available. Law enforcement has limited equipment available to them. Buffalo Police Department has applied for grants to place Automatic External Defibrillators (AEDs) in the squad cars.

#### **Ground Ambulance Service**

Johnson County has two ambulance stations. Kaycee is a facility owned by the JCRHCD, and Buffalo is a leased facility on the grounds of Harness Funeral Home. Kaycee houses two ambulances, and Buffalo houses four ambulances.

Geographically, Buffalo and Kaycee cover approximately 2,000 square miles each. Population served varies significantly, with Buffalo covering approximately 7,000 people (or 83% of the county's population) and Kaycee serving approximately 1,400 people (or 17% of the county's population).

Chute times (time of notification of the emergency call until time crew is in the ambulance responding as self-reported by the agencies) for Kaycee were reported to be 5 minutes, on average, during the daytime and up to 7 minutes during the night. Chute times for Buffalo were reported to be within 2 to 3 minutes during the day and slightly longer during the night.

Buffalo and Kaycee also provide mutual aid for each other. Other mutual aid service for Kaycee is provided by Midwest, a community located 35 miles southeast of Kaycee in Natrona County. For Buffalo, it primarily comes from Sheridan, a community located 25 miles to the northwest in Sheridan County.

Kaycee does not provide interfacility transports, as there is not a hospital in their response area. Buffalo does a number of interfacility transports. These requests are addressed outside of the duty roster and do not affect the service's ability to maintain coverage for the emergent needs of the area.

### **Air Medical Service**

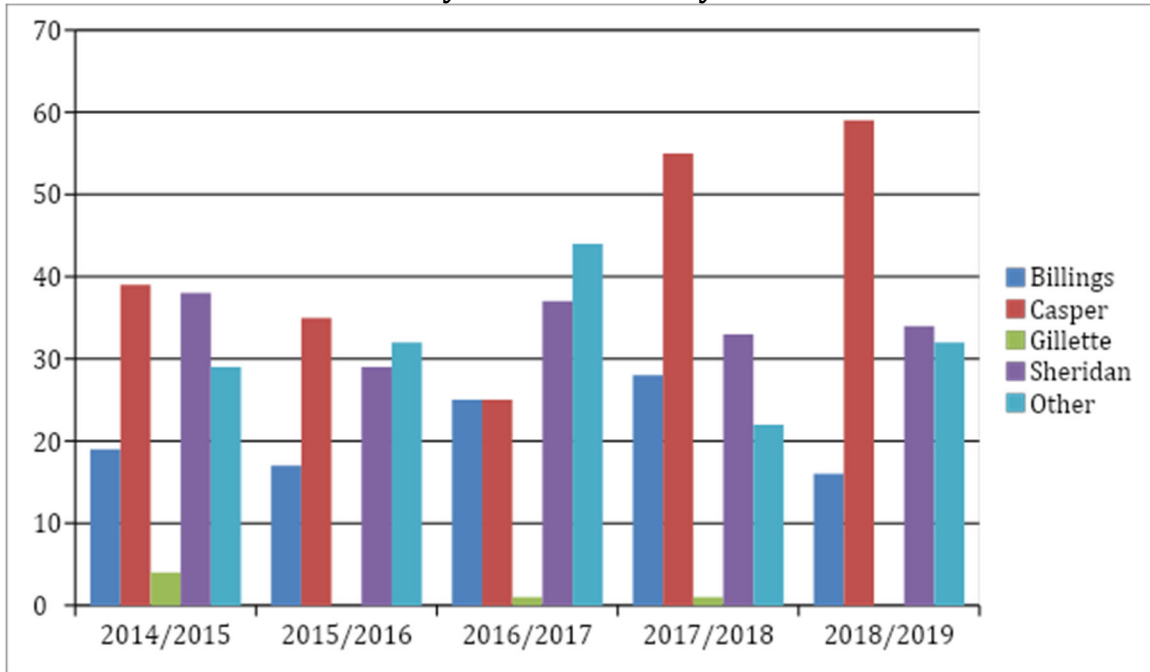
Air ambulance service, primarily in the form of rotor-wing (helicopter) service, is available in the region. Kaycee utilizes air ambulance response to scenes approximately 10% of the time. Buffalo generally does not utilize air ambulance response to scenes as often as does Kaycee, likely due to their proximity to a hospital. Air ambulance utilization in Buffalo is primarily limited to interfacility transports between hospitals.

### **Receiving Facilities & Other County Healthcare Resources**

For Kaycee, 60–70% of patients transported are taken from the scene to facilities in Casper, Wyoming. The remaining percentage of transported patients are brought to Johnson County Healthcare Center in Buffalo.

For Buffalo, a very high percentage of all transports from scenes are brought to Johnson County Healthcare Center in Buffalo. Only an occasional patient is taken from the scene to a facility in Sheridan.

### Interfacility Transfer Activity for Buffalo



### Mobile Integrated Health

Currently, there is no functioning Community Paramedic or Mobile Integrated Health program operating within Johnson County.

### EMS Education

A branch of Sheridan College is located in Buffalo, and EMS education is available through this facility. Continuing education is provided from within the service. Resources from external agencies, such as regional medical centers, air medical services, and other organizations, are utilized frequently.

### EMS System Oversight

In Buffalo, JCRHCD holds a Professional Services Agreement with Buffalo EMS, a private for-profit organization. This agreement has been in place for a number of years with minor modifications since its inception. Oversight of Buffalo EMS is limited to what is outlined in the Agreement.

In Kaycee, the service director and assistant director are employees of the JCRHCD and report monthly to this body. Attendance is expected by the Kaycee director at all JCRHCD meetings, and performance reports are provided to include run volumes, response times, and other operational and site-specific related information. Revenue information is not provided as it is not available to the Kaycee director.

Both organizations report regular interaction and support from their medical director. The medical director attends quarterly meetings in Kaycee and has



frequent interactions with leadership from Buffalo. Both services did comment on how there is no formal Quality Assurance/Quality Improvement plan in place. Both felt this would strengthen the relationship with the medical director and enhance patient care. Receiving facilities commented favorably on the quality of the care provided by both EMS organizations.

### **How the EMS System Operates Today**

Business-level systems for JCRHCD are primarily addressed through the Buffalo EMS office. Electronic patient care reports are processed by this office for both the Buffalo EMS service and Kaycee EMS and then submitted to an external billing agency. All correspondence between the external billing agency and JCRHCD is done through a designated person at Buffalo EMS, who also serves as an employee of the JCRHCD, overseeing the business operations of the joint ambulance operations. The relationship with the external billing agency is relatively new. Enhanced reporting is expected to be available through this agency over time as history is deepened between JCRHCD and this vendor.

All patient care accounting, report aging, and other business-related activity is addressed via this process. An annual audit is completed with a summary report delivered to the JCRHCD board. All accounting is completed and reports are written under the Johnson County EMS umbrella, not specific to Kaycee EMS or Buffalo EMS.

Long-term budget forecasting for replacement of current capital equipment or new purchases to enhance operations was not disclosed. Budget information shared reflected performance against current year's allocation only.

# System Overview

## Operational Resources

<b>Calls (calendar 2018)</b>	<b>1044</b>
Emergency	912
Transfers	132
<b>Employees</b>	<b>37</b>
Kaycee	12
Buffalo	25
<b>Vehicles</b>	<b>6</b>
Kaycee Ambulances	2
Buffalo Ambulances	4
<b>Regularly Staffed Amb's</b>	<b>3</b>
Kaycee Amb's	1***
Buffalo Amb's	2****

\*\*\* Generally no call schedule

\*\*\*\* Can surge 4 ambulances

## Financial Resources (fiscal 2018/2019)

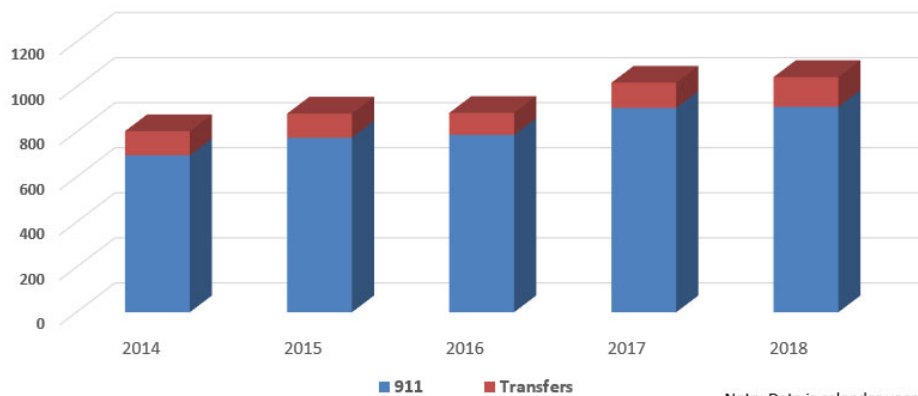
Net Transport Revenue	\$295,685.37
Total Expenses	\$1,297,792.74
Net Revenue	(\$1,002,107.37)**
Salary Cost	\$719,144.57
Non-salary Expenses	\$578,648.17
Cost per Call	\$1,243.10
Revenue per call	\$283.22
Gain or loss	(\$959.87)
CDs	\$1,491,136.85
Checking Account	\$130,937.40
Total Reserves	\$1,622,074.25

\* June/July Fiscal Year

\*\* Without accounting for public financial support



# Call Volume Trends



Note: Data is calendar year

	2014	2015	2016	2017	2018
911	697	775	787	907	912
Transfers	107	107	98	112	132
Total	804	882	885	1019	1044



# System Finances

	2015-2016	2015-2016	2016-2017	2017-2018	2018-2019
Net Transport Revenue	\$168,970.03	\$213,051.19	\$223,843.86	\$182,026.73	\$295,685.37
Total Expenses	\$996,851.07	\$957,975.81	\$999,737.50	\$1,039,387.11	\$1,297,792.74
Net Revenue	(\$827,881.04)	(\$744,924.62)	(\$775,893.64)	(\$857,360.38)	(\$1,002,107.37)
	2015-2016	2015-2016	2016-2017	2017-2018	2018-2019
Salary costs	\$593,675.36	\$598,818.50	\$613,314.12	\$647,379.59	\$719,144.57
Operational costs	\$403,175.71	\$359,157.31	\$386,423.38	\$392,007.52	\$578,648.17
Total Costs	\$996,851.07	\$957,975.81	\$999,737.50	\$1,039,387.11	\$1,297,792.74
	2015-2016	2015-2016	2016-2017	2017-2018	2018-2019
Cost per call	\$1,239.86	\$1,086.14	\$1,129.65	\$1,020.01	\$1,243.10
Revenue per call	\$210.16	\$241.55	\$252.93	\$178.63	\$283.22
Net difference	(\$1,029.70)	(\$844.59)	(\$876.72)	(\$841.37)	(\$959.87)
	2015-2016	2015-2016	2016-2017	2017-2018	2018-2019
CDs	\$589,197.74	\$592,339.90	\$594,075.44	\$597,999.54	\$1,491,136.85
Bank of America	\$1,981,406.45	\$2,364,852.01	\$1,784,032.06	\$1,441,810.48	\$130,937.40
Total Reserves	\$2,570,604.19	\$2,957,191.91	\$2,378,107.50	\$2,039,810.02	\$1,622,074.25



## IV. Key Findings

### 1. As operating today, both Buffalo EMS and Kaycee EMS appear to be sustainable long term.

The EMS system in Johnson County is providing a stable and viable solution to meet the needs of the citizens in the area of EMS. Forward thinking by leadership and support from the community has established a foundation to continue to build on for years to come. By combining the strength of three organizations and leading EMS within the county as a system, Johnson County has created several examples of best practices.

### 2. 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 the Johnson County community. The interviews reflected a true appreciation not only for the service, but for the people providing this care — both volunteers and paid employees.

### 3. EMS has always been and continues to be highly subsidized.

As demonstrated in the true cost of EMS charts and calculations below, the largest single source of subsidy to EMS in Kaycee is the donated labor provided by volunteer staff. The value of the labor — i.e., not having to pay full-time personnel costs — provides a significant financial savings to Kaycee EMS and the community as a whole. As finding and keeping volunteers becomes more and more difficult, replacing the donated labor will require larger and larger financial resources. These financial resources can take on many forms, such as community financial support, greater patient revenue, or the combination of both.

## Determining True Labor Costs

2 people  
24 hours a day  
365 days a year  
24.60 value of volunteer hour in WY  
1 truck

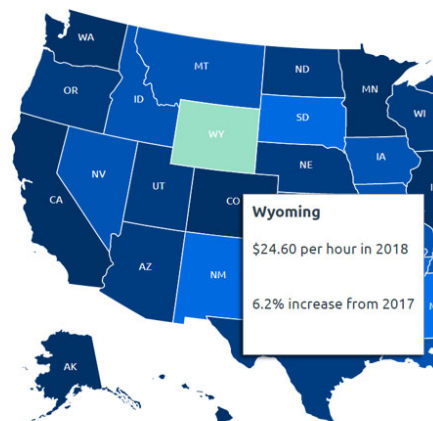
\$430,992 cost per truck per year

\$24.60 breaks down to:

- \$16.48 hourly wage
- \$8.12 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



## Labor Costs Accounting for Donated Labor



	2015-2016	2015-2016	2016-2017	2017-2018	2018-2019
Salary costs	\$24,793.44	\$27,986.49	\$32,115.71	\$42,324.33	\$112,534.24
Donated labor	\$406,198.56	\$403,005.51	\$398,876.29	\$388,667.67	\$318,457.76



This subsidy can also be seen when you view the revenue generated by patient transports versus the total cost of the system as operating today. In fiscal year 2018/2019, the system generated \$295,685.37 in patient revenue but had net operating expenses of \$1,297,792.74. The difference between expenses and revenues is made up by community support in the form of tax dollars. Only 23% of the system costs come from revenue generated by patient transports. If you consider the true costs of the system by accounting for the volunteer labor, only 18% of the system resources come from revenue generated by patient transports. Said differently, 82% of the system is subsidized by either tax dollars or volunteer labor.

#### 4. The model of using shared services/roles to provide full-time employment with living wages should be considered as a best practice for rural EMS.

In rural and remote EMS agencies responding to less than 1,000 runs annually, finding financial resources to employ full-time staff who then have the ability to immediately respond to emergent requests for service 24/7 is typically not common but almost always needed. Often, the run volume is too large to support finding and keeping volunteers, but the run volume is often too small to generate the financial resources needed to employ and retain full-time staff. In the system deployed today in Buffalo, Buffalo EMS has augmented the funding received from JCRHCD under their contract to enable

them to both provide full-time employees to the ambulance service while also providing competitive pay and benefits. By approaching the business model in this fashion, full-time employees are available for the ambulance service with the true cost of these employees being shared by other businesses.

**5. The investment in full-time leadership, as a first step in transitioning from all volunteer, should be considered as a best practice for rural EMS.**

Finding and keeping volunteers in smaller communities is a challenge being faced across the country. On the surface, this challenge appears to be about recruitment and retention, but a deeper study reveals that the factors affecting whether individuals join organizations and stay, leave them, or never join them in the first place is leadership. Study after study continues to support the role that leaders play in creating, fostering, and advancing cultures that feel fun, friendly, and family like, while maintaining high accountability. The investment JCRHCD made in placing full-time leadership in Kaycee demonstrates not only the commitment to healthcare in the community, but a recognition that full-time leadership is required to lead rural and remote EMS organizations during these trying times.

**6. Leading EMS as a system, in this case through a healthcare district board, should be considered as a best care practice for rural EMS.**

As an elected board of directors, JCRHCD is representative of the communities and has the responsibility to assure the emergency medical needs of the citizens are met, while at the same time being fiscally responsible with the tax dollars allocated to support these efforts. As designed today, the system has reporting and oversight capabilities, as well as the ability to advocate for additional resources if needs arise.

**7. Workforce recruitment and retention is and will likely continue to be a major challenge.**

Finding and keeping more of the right people is likely to be one of the greatest challenges to face either organization. This challenge is shared by EMS organizations across Wyoming and the nation. EMS recruitment and retention is facing a perfect storm of factors; these factors are shared by both full-time and volunteer organizations. Initial and ongoing training requirements are increasing for all levels of EMS practitioners. Interest in vocational careers such as EMS is decreasing. Rural communities are seeing their populations decrease as young people move away for higher-paying career opportunities, while at the same time rural community healthcare needs grow due to an aging population. Compounding all of these factors is the regionalization of healthcare, often resulting in a higher demand for long-distance interfacility transfers.

- 8. There is not consensus around the EMS contract between Buffalo EMS and the Regional Health Care District board. The lack of consensus is resulting in confusion, disagreement, high emotions, and sometimes open revolt between the parties. Individuals and the communities are feeling like they have to choose sides. This lack of consensus is ultimately bringing the sustainability of EMS in Buffalo into question.**

Of all the areas the assessment revealed, this was the most prevalent. In reviewing the Professional Services Agreement between JCRHCD and Buffalo EMS, there were no apparent violations of the agreed-upon terms. However, there were also no clear accountabilities of the contractor for reporting the use of public funds, thus fulfilling the role of JCRHCD as the stewards of the public trust. In verbal interviews, individuals were either strongly for or against one side or the other, often reporting the sense that they had to choose sides. The tension around the contract and what is or should be expected when public funds are being used is having a negative effect on the community. When three-quarters or more of the financial resources needed to operate the system comes from the public, their trust and faith in all components of the system is critical. The assessment did not reveal any concerns with patient care provided by Buffalo or Kaycee EMS; in fact, the interviews revealed positive comments toward the personalized care provided by both organizations. Several interviews revealed a deep appreciation for how clinical staff have not let the political discussions enter into the patient care delivered daily.

Moving forward, if the parties choose to continue the relationship, a clear consensus is needed among all parties. Both parties must be willing to understand the position of the other and come to a place where all can be comfortable, accountable, and provide reasonable transparency, resulting in a positive relationship and strong collaborative partnership.

- 9. The current collaboration between the two EMS organizations, through the Regional Health Care District, is strengthening each individual organization and sustainability as a whole (joint billing as an example).**

As the umbrella organization of Johnson County EMS, the steps JCRHCD has taken have proven beneficial and will continue to show positive gains in the future. Collaborations, such as joint billing, joint purchasing, and sharing of resources in office support, are all ways of not duplicating efforts and reducing overhead expenses.

- 10. When roles and space between Buffalo EMS and Regional Health Care District are blended, there can be external confusion and questions about conflicts of interest.**

JCRHCD leases office space from Buffalo EMS for clerical and bookkeeping purposes. As designed today, this space is the same space utilized by Buffalo EMS, and work completed on behalf of JCRHCD is completed by the same person who is doing this work on behalf of Buffalo EMS. Without a clear understanding of the working relationship, those not aware of the

arrangement may confuse who represents who and when they represent which organization. While no real conflict of interest was found to exist, the perception of a conflict could exist.

**11. The practice at Johnson County Regional Health Care District to combine revenues and blended financial statements make it difficult to have a clear financial picture for EMS in the county.**

As part of the assessment, efforts were made to identify financial performance of each of the services individually. Today, the district combines many items from each service, such as patient revenues. With the manner that joint accounting is being recorded today, the team was unable to differentiate expenses and revenue for Kaycee and Buffalo as standalone operations and, therefore, unable to forecast future needs or trends projected for financial needs.

**12. Community support, especially financial support, is critical to EMS remaining long-term sustainable.**

Tax subsidy will continue to be necessary to support EMS in Johnson County. Revenue received from patient transports and other billable events will not be able to sustain the level of care the community needs and has come to expect.



## V. Recommendations

### 1. Create a community-wide shared vision for EMS.

Include all stakeholders in a planning process that imagines what EMS will look like in Johnson County many years in the future. For example, will there be ALS care; will Kaycee have more or fewer volunteers? How will the current collaborative model grow and strengthen by continuing to combine the strengths of each organization and eliminating duplication and inefficiency that might exist. Determine what level of EMS the community desires, how this will be financially supported, how this will be provided, and how EMS will be governed.

### 2. Resolve disagreements between Regional Health Care District and Buffalo EMS.

Clearly understand and accept the current contract and work collaboratively toward a new contract if there is willingness to continue the relationship. Commit to public support but private productive disagreement when issues arise. And, if needed, use a facilitator. If the desire exists, jointly develop a new agreement that balances the needs of private EMS with the accountability of the tax dollars, includes performance measurements, and considers consequences of substandard performance. Consider options if a shared resource model is not available in the future; are there financial resources and community support for a different model?

### 3. Johnson County Regional Health Care District and Buffalo EMS should jointly develop a new contract.

Performance measures — such as chute times, call response rates, clinical performance, and employee engagement — as well as financial stability and performance rewards for Buffalo EMS should be considered for inclusion in a new contract. Consider reviewing publicly available ambulance contract documents to determine areas not currently included that may be applicable in a new agreement.

### 4. Unblend finances and operations between Johnson County Regional Health Care District and Buffalo EMS.

Separate revenues and expenses, as well as profit and loss statements, for each organization. Develop an overarching budget for the district to include forecasting of future expenses (capital equipment replacement, new equipment additions, etc.). Ensure separation exists with space and personnel so no real or perceived conflicts of interest exist.

### 5. Maximize current revenues.

Consider rates that more closely align with expenses. Mileage rates are critically important. Evaluate reimbursement rates as compared to payer mix. Are maximum benefits being realized in each of these areas? Identify if charges are being applied to all areas that can/should be charged (i.e., for-

profit standby events). Consider how high-deductible Health Savings Accounts (HSA) impact the current policy of accepting what insurances pays, as payment in full, for county residents.

**6. Continue to invest in Kaycee EMS.**

Support from JCRHCD will be necessary to sustain the operation in Kaycee. This service is vital to the southern half of Johnson County and, although sparsely populated, provides the critical link necessary for time-sensitive systems of care, such as trauma and cardiac. JCRHCD should continue to plan for future staff and compensation expenses and ensure resources are available for these expenses. As there are performance standards recommended for Buffalo EMS in recommendation #2, similar performance standards should be applied to the Kaycee operation.

**7. More deeply understand and accept the true needs of the current EMS System.**

JCRHCD will need to continue to be forward thinking and understand needs of the current system will not be the same as the EMS system needs in the future. Changes in patient care practices, expectations of physician providers, education, and equipment are inevitable and expected. Having an engaged board in partnership with the EMS providers will assure the system is positioned to be proactive and continue to lead EMS on behalf of the citizens of Johnson County. JCRHCD also represents the community and will need to consider what is sustainable long-term, as well as what the community expects in level of care, what the community will deem financially sustainable through taxes, and where the meeting point is between the public funding of private EMS operations.