

# **What Every Rural South Dakota Community Needs to Know About EMS:**

## **A Guide to Challenges and Opportunities**

Developed by  
**SafeTech Solutions, LLP**

In cooperation with the  
**South Dakota Department of Health,  
Office of Rural Health and EMS Program**

August 2019

For more information, contact  
**John Becknell, Ph.D.**  
**SafeTech Solutions, LLP**  
**[john@safetechsolutions.us](mailto:john@safetechsolutions.us)**



# Table of Contents

<b>I.</b>	<b>Introduction</b>	<b>3</b>
<b>II.</b>	<b>What Is EMS?</b>	<b>3 – 5</b>
	<i>Defining EMS</i>	3
	<i>Levels of Clinical Care</i>	5
<b>III.</b>	<b>How Did EMS Develop in South Dakota? Why Does it Matter?</b>	<b>5 – 8</b>
	The State’s Involvement in EMS	6
	Licensed Ambulance Services	6
	EMS in South Dakota by the Numbers	7
	EMS is a Local Choice	8
<b>IV.</b>	<b>Volunteerism</b>	<b>9 – 12</b>
	Rural EMS in South Dakota is Heavily Subsidized	9
	The Full Cost or Value of an Ambulance Service in SD	9
	What is a volunteer?	10
	Why is volunteerism declining?	10
	The Current State of Volunteer Ambulance Services in SD	11
	Reliability	11
<b>V.</b>	<b>What Is the Future of EMS in South Dakota?</b>	<b>12 – 13</b>

## I. Introduction

This document provides a brief summary of information about rural Emergency Medical Services (EMS) in South Dakota. The purpose of the document is to provide relevant and up-to-date information to rural residents and community leaders about EMS and the current state of rural EMS in South Dakota.

EMS is an important public service in rural South Dakota and is vital to the rural healthcare system. Whenever and wherever there is a need, a simple call to 911 will alert a system of emergency medical response, out-of-hospital, or clinic medical care and medical transportation. These have become expected services throughout rural South Dakota, including in areas of sparse population and where services are limited. EMS has become vital to people's quality of life as residents all across rural South Dakota live, work, travel, and sleep secure in the knowledge that emergency medical help is just a phone call away.

While rural EMS has become expected and accepted as a vital community service, the informal network of rural ambulance services and first-response services that provide rural EMS faces significant challenges.

*On the surface, these challenges relate to declining volunteerism and difficulties recruiting and retaining workers. A shrinking EMS workforce threatens local systems' reliability and long-term sustainability. Beneath the surface, however, is a larger challenge related to how rural EMS evolved and has been valued, recognized, structured, and funded. This deeper challenge necessitates a thorough understanding of rural EMS, its history, and the dynamics that shape it.*

As rural EMS continues to evolve, it is hoped this document will help communities and community leaders understand rural EMS, its particular challenges, and how best to plan for the future.

## II. What Is EMS?

### *Defining EMS*

In this document, EMS refers to services in South Dakota that respond to urgent or emergent medical situations outside the clinic, healthcare facility, or hospital environment and which provide assessment, care, and medical transportation. EMS also refers to services that provide medically necessary transportation between medical facilities.

EMS in South Dakota is provided by ambulance services (ground and air medical services) and first-response agencies (law enforcement, fire departments, rescue squads, and industry first aid teams).

EMS personnel in South Dakota includes:<sup>1</sup>

- Emergency Medical Responders (EMRs)

---

<sup>1</sup> All EMS personnel descriptions are from the following source:  
National Association of State EMS Officials. *National EMS Scope of Practice Model 2019* (Report No. DOT HS 812-666). Washington, D.C.: National Highway Traffic Safety Administration. Retrieved from: [ems.gov/pdf/National\\_EMS\\_Scope\\_of\\_Practice\\_Model\\_2019.pdf](https://www.ems.gov/pdf/National_EMS_Scope_of_Practice_Model_2019.pdf)



- Funding including the billing and collection of transportation fees;
- Organizations, leadership, and administrators;
- The rules and legislation that regulate services;
- The collection of information, evaluation, and coordination of quality; and
- The research and learning that supports improvement and innovation.

### ***Levels of Clinical Care***

The two levels of clinical care provided by ambulance services and non-transporting first-response agencies are commonly described as Basic Life Support (BLS) or Advanced Life Support (ALS).

BLS commonly includes a variety of basic noninvasive procedures used to assist in the immediate care and survival of a patient. BLS care includes cardiopulmonary resuscitation, hemorrhage control, stabilization of fractures, spinal immobilization, and basic first aid. In recent years the administration of a few essential drugs have been added to some BLS protocols. BLS is often used as a descriptor for the scope of care provided by EMTs and EMRs.

ALS goes beyond BLS to encompass a higher level of emergency medical care, including invasive techniques, such as IV therapy, advanced airway management, advanced cardiac care, and drug administration. ALS is often used as a descriptor for the scope of care provided by AEMTs and paramedics.

## **III. How Did EMS Develop in South Dakota? Why Does it Matter?**

Modern EMS developed in rural South Dakota 40–50 years ago as part of a national endeavor to respond to rural highway traffic deaths and improve out-of-hospital cardiac care. In the late-1960s and 1970s, Congress developed initiatives to expand EMS across the United States, creating federal programs for EMT and paramedic training and allocating funding for vehicles and equipment. The 1973 EMS Systems Act saw the creation and funding of more than 300 EMS systems across the country.

In the early 1980s, however, things changed. Before EMS systems in rural states like South Dakota could be planned and developed, funding for EMS was cut or eliminated in an effort to balance the federal budget. Today, EMS at the federal level is limited to a small office in the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA).

With the elimination of federal funding and planning for EMS, states and rural communities were left to develop EMS systems on their own. In South Dakota, there was no requirement or mandate that counties or communities provide EMS or ambulance services. But as local people learned about modern EMS and sought to address local needs, communities came together, gathered resources, and created ambulance services and first-response services.

This local and organic development of EMS arose without any regional or statewide planning or funding. There was no coordinated thought given to where ambulance services should exist or how to most effectively and efficiently deploy resources. In the absence of significant funding, rural EMS became possible largely through donated labor (volunteerism) and the gathering of local funds for vehicles, equipment, supplies, facilities, and other expenses.

Today, EMS across South Dakota is a patchwork of ambulance services and first-response agencies. These organizations and agencies may be independent not-for-profits, municipally owned, county owned, fire department owned, hospital owned, or for-profit businesses. This patchwork of services has become an informal network that provides service coverage to every square mile of rural South Dakota.

In the past decade, this informal network of services has begun to show signs of strain. Volunteerism has declined, and the demand for services has risen. Pressure on the system now threatens the reliability and sustainability of EMS in rural South Dakota.

### ***The State's Involvement in EMS***

Historically, the state government of South Dakota has left planning and development of EMS to local governments, but has served to regulate EMS in the state. Regulation is about ensuring the safety and quality of the services delivered. The South Dakota Department of Health (DOH) and the EMS Program in the DOH's Office of Rural Health oversee the South Dakota Codified Laws and Administrative Rules that regulate EMS in the state. The South Dakota Board of Medicine and Osteopathic Examiners also plays an oversight role.

All transporting ambulance services must meet specified requirements in terms of personnel, equipment, availability, operations, and data reporting and must be licensed by the state. Ambulance personnel that provide emergency medical care must be certified or licensed.

South Dakota has a unique system that divides the regulation and oversight of EMS between two regulating bodies. The *certification* of Emergency Medical Technicians (EMTs) and Emergency Medical Responders (EMRs) is performed and overseen by the DOH EMS Program. The *licensing* of Advanced Life Support personnel (paramedics) is performed by the South Dakota Board of Medicine and Osteopathic Examiners. This division presents increasing challenges as the lines between BLS and ALS are becoming less defined. Many EMS personnel have expressed a desire for more unified coordination and would prefer EMS in South Dakota be under a single regulatory body, as it is in most states.

The State does not mandate the provision of EMS by counties, townships, or municipalities, nor does it plan, oversee, or regulate the geographic service areas of ambulance services. The State does not provide operational funding for ambulance services or first-response services.

In recent years, the State's EMS Program provides support, guidance, and help to rural EMS agencies across the state through a variety of grants and programs that have provided education, leadership support, equipment, and advice.

### ***Licensed Ambulance Services***

All transporting ambulance services in South Dakota must be licensed and meet a variety of basic requirements around equipment, supplies, safety, and certified or licensed personnel. Unlicensed ambulance services are not permitted.

Some of the basic requirements of a licensed ambulance service are:<sup>2</sup>

- An appropriate and approved ambulance vehicle;
- Staffing of all responses with at least two personnel that meet the following criteria:

---

<sup>2</sup> South Dakota Codified Laws and Administrative Rules

- > Staff Person 1: EMT, AEMT, paramedic, nurse, nurse practitioner, or nurse midwife, physician, physician assistant
  - > Staff Person 2: Any of the above or a *driver* who has completed a state-approved course to demonstrate competencies in a variety of areas, such as CPR, HIPAA, vehicle operations, etc.
- Specified equipment and supplies;
- Availability to respond 24/7;
- Timely response when requested;
- Compliance with medical protocols and guidelines;
- Submission of patient care reports and other data to the State.

**EMS in South Dakota by the Numbers**

<p><b>Ambulance services</b></p> <ul style="list-style-type: none"> <li>• 128 transporting ambulance services</li> <li>• 6 air medical services (including helicopter and fixed wing services)<sup>3</sup></li> </ul>										
<p><b>Personnel</b></p> <ul style="list-style-type: none"> <li>• 3,453 certified or licensed EMS personnel: <ul style="list-style-type: none"> <li>&gt; 2,463 EMTs</li> <li>&gt; 190 AEMTs and Intermediates</li> <li>&gt; 694 Paramedics</li> <li>&gt; 106 EMRs<sup>4</sup></li> </ul> </li> </ul> <div style="text-align: center;"> <table border="1"> <caption>EMS Personnel Distribution</caption> <thead> <tr> <th>Personnel Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>EMTs</td> <td>71%</td> </tr> <tr> <td>Paramedics</td> <td>20%</td> </tr> <tr> <td>AEMTs and Intermediates</td> <td>6%</td> </tr> <tr> <td>EMRs</td> <td>3%</td> </tr> </tbody> </table> </div>	Personnel Type	Percentage	EMTs	71%	Paramedics	20%	AEMTs and Intermediates	6%	EMRs	3%
Personnel Type	Percentage									
EMTs	71%									
Paramedics	20%									
AEMTs and Intermediates	6%									
EMRs	3%									
<p><b>Annual Responses/Transports (2018 data)</b></p> <ul style="list-style-type: none"> <li>• 76,886 responses/transports</li> <li>• 57,200 (74%) of all responses/transports were performed by 10 ambulance services</li> <li>• 45 ambulance services have less than 100 responses/transports per year</li> </ul>										

<sup>3</sup> EMS Program 2019 data

<sup>4</sup> EMS Program 2019 data

<ul style="list-style-type: none"> <li>• 95 ambulance services have less than 500 responses/transport per year<sup>5</sup></li> </ul>
<p><b>Volunteer Labor</b></p> <ul style="list-style-type: none"> <li>• 95 of 128 (74%) ambulance services utilize volunteer labor in some form<sup>6</sup></li> </ul>
<p><b>Populations Served</b></p> <ul style="list-style-type: none"> <li>• 46 ambulance services serve populations of 1,000 or fewer</li> <li>• 86 ambulance services serve populations of 3,000 or fewer<sup>7</sup></li> </ul>

***EMS Is a Local Choice***

Having an ambulance service in your community is a choice. There is no requirement or mandate for South Dakota counties, townships, or municipalities to provide EMS. Local EMS exists solely at the discretion of local communities. There is no state-operated EMS service and no “back-up” for local agencies similar to the manner in which the South Dakota State Patrol supplements and may provide back-up for local law enforcement agencies.

The absence of a mandate for the provision of EMS has advantages and disadvantages.

No mandate allows local communities and counties to decide for themselves whether they want to have EMS and, if so, in what quantity and at what level of clinical care (BLS vs. ALS). This freedom has its advantages, especially when the cost of having a local ambulance service is deemed too large.

The absence of a mandate also presents challenges. No mandate means that no one is responsible for the provision of EMS. When an ambulance service ceases operation (perhaps because of too few volunteers), there is no clear requirement that neighboring agencies provide services. Similarly, if a governmental EMS agency (city or county owned) decides to restrict its response to the boundaries of its governmental jurisdiction, there is no clear requirement that other agencies provide services outside those bounds.

The uncertainty concerning geographic service areas and who is responsible for providing EMS in any given area results from the way EMS developed in South Dakota historically. The geographic areas an ambulance service assumes responsibility for and will be the primary responder for are called Primary Service Areas (PSAs). In most areas of South Dakota, PSAs are the product of informal historical arrangements between neighboring services and are not planned or designated at a regional or state level.

Because PSAs are not formally designated (by law, rule, or other means), responsibility for a geographic area is uncertain. In the event that an ambulance service ceases operation, responsibility for that geographic area is informally left to neighboring services — which may or may not have the resources to provide the additional services. Further, informal PSAs are non-exclusive. Any licensed service may move in and compete (unless prohibited by local ordinances).

---

<sup>5</sup> EMS Program 2018 data  
<sup>6</sup> 2016 Survey of all South Dakota EMS Agencies conducted by SafeTech Solutions, LLP  
<sup>7</sup> 2016 Survey of all South Dakota EMS Agencies conducted by SafeTech Solutions, LLP

## IV. Volunteerism

Today, responsibility for the provision of EMS in most rural communities falls on the shoulders of the few faithful volunteers who care most about ensuring EMS is available. For many volunteers, this is a heavy burden. Volunteers worry about whether or not their service is reliable and will be available whenever someone needs help. They carry deep concerns about the future as they struggle and often find themselves failing to recruit their replacements.

### ***Rural EMS in South Dakota Is Heavily Subsidized***

EMS in the United States is funded in large part by transportation revenues — the monies collected from insurance, Medicare, Medicaid, or from a patient directly when he or she receives medical transportation. When transportation revenues are insufficient to cover the costs of operating the ambulance service, the ambulance service must be *subsidized* by other funding sources.

Nearly all rural ambulance services in South Dakota must be heavily subsidized because they do not have enough transports to cover their operational expenses.

One 24/7 ambulance unit using paid staff needs at least 600 paying transports each year to cover the full costs of its personnel, vehicle, equipment, supplies, fuel, insurance, facilities, and administrative overhead. More than 80% of ambulance services in South Dakota do not have the transport volume (enough billable patients) to fully cover expenses if utilizing fully paid staff.

To subsidize operations, EMS organizations use a variety of funding sources including:

- Donated labor (volunteerism);
- Tax revenues from taxing districts, sales tax, other tax, or local government's general fund (the State does not provide any operational monies for EMS);
- Fundraising through fundraising events/functions or letter campaigns;
- Selling subscriptions or memberships;
- Donations; and/or
- Grants.

The subsidies received from taxes, fundraising, subscriptions, and memberships, donations and grants are relatively small compared to the full cost of providing EMS.

By far, the largest subsidy for EMS in South Dakota is the donated labor of volunteers. This subsidy is called the *volunteer subsidy*. As EMS is provided in South Dakota today, this subsidy is estimated to be valued at \$36 million annually.<sup>8</sup> It is the decline of this subsidy that is presenting major challenges for the future of rural EMS in South Dakota.

### ***The Full Cost or Value of an Ambulance Service in South Dakota***

Most rural ambulance services in South Dakota use donated labor (volunteers); thus, the full cost and value of the services is often hidden. But accounting for the full cost and value of a service — including the value of donated labor — is extremely helpful in making plans for the future. It is, for example, important for planning if volunteers will eventually need to be replaced by paid staff. Such accounting, furthermore, can be an effective tool in telling a full and powerful story to the community about the value of the service.

---

<sup>8</sup> This number is calculated by ascribing a value to the volunteer hour using the 2018 Value of a Volunteer Hour in South Dakota. See the section on "The Full Cost or Value of an Ambulance Service in South Dakota."

A rural ambulance service operating and staffing a single ambulance unit should be recognized as providing an approximate \$434,000 value to its community or service area per year. This accounts for both non-labor and labor expenses and can be broken down as follows:

Value of annual non-labor expenses	\$50,000
Value of annual labor expenses	<u>\$384,000</u>
TOTAL value of ambulance service	\$434,000

The \$50,000 annual *non-labor expenses* includes expenses for a facility, fuel, insurance, equipment, supplies, repairs, other administrative and miscellaneous expenses and the amortized cost of a single vehicle spread over 10 years.

The \$384,000 value of annual *labor expenses* is a calculation based on the minimal labor expense a service would incur if it had no volunteers and had to pay staff. The 2018 Value of a Volunteer hour in South Dakota is \$21.91.<sup>9</sup> Without volunteers, an ambulance service staffing one unit would need two staff members scheduled 24/7. That would require 17,520 hours per year multiplied by \$21.91.

### ***What Is a Volunteer?***

For the purposes of this document, a *volunteer* is someone who is not paid full regular wages for their work. Many rural ambulance services in South Dakota now pay some level of compensation to volunteers. This compensation may be an hourly call pay stipend or a per-response stipend, but the compensation is less than regular per/hour wages.

### ***Why Is Volunteerism Declining?***

EMS volunteerism is declining all across the United States. In South Dakota, 92 out of 95 rural ambulance services report challenges associated with recruiting and retaining volunteers.

The decline in EMS volunteerism appears to be a growing trend that is showing no signs of reversal. Research among rural EMS volunteers across the Great Plains suggests the following causes of declining volunteerism:<sup>10</sup>

- **Socioeconomic changes**: Rural individuals and families report needing to work more hours and more jobs to support themselves and their families. People report commuting greater distances to jobs. These socioeconomic changes are related to changes in agricultural business, manufacturing, healthcare, and retail businesses.
- **Changing demographics**: Rural communities across the Great Plains continue to become older or grayer as young people leave for urban areas.<sup>11</sup>
- **Increasing demands of the role**: Many rural EMS volunteers report that the demands of an EMS role have increased. Volunteers report that EMTs are expected to know more, provide higher levels of care, and be responsible for more detailed patient care reports. A smaller roster of active volunteers means fewer volunteers must do more. Many leaders and

---

<sup>9</sup> This number comes from the Independent Sector, a national organization that calculates the value of a volunteer hour annually for each state. The value of the volunteer hour is calculated by using Bureau of Labor Statistics data and assumes the minimum expense of replacing a volunteer with a paid and benefited employee. See <https://independentsector.org/value-of-volunteer-time-2018/>.

<sup>10</sup> From interviews with rural EMS volunteers in North Dakota, South Dakota, Nebraska, Wyoming, and Minnesota, 2009–2019 by SafeTech Solutions, LLP

<sup>11</sup> Glasgow, N., Berry E.H. (eds.) (2013). *Rural Aging in 21st Century America*. New York, NY. Springer.

educators of volunteer EMS agencies believe testing for basic EMT certification has become more difficult with the use of online computer-based testing.<sup>12</sup>

- Less local community commitment: Rural communities continue to undergo significant sociological changes. The commerce center of rural America has moved from locally owned and operated Main Street businesses to regional box stores where people often shop without a relationship or connection to the people or stores they are doing business with. Oftentimes, the newer generations experience less of a connection to the small towns they live in than have previous generations, and thus younger people may be less likely to feel the need to volunteer.
- Changing attitudes about volunteering: Young people today are less likely to volunteer than previous generations, and how they volunteer and why is changing.<sup>13</sup> The emerging generation is also more likely to ask, “Why must EMS be volunteer?” They believe EMS positions should be paid in the same way rural positions in law enforcement, education, public works, or other areas of healthcare are paid.<sup>14</sup>
- The regionalization of healthcare: Because of the regionalization of hospitals and healthcare facilities, volunteering is demanding more time to transport patients to distant tertiary hospitals and between healthcare facilities.

### ***The Current State of Volunteer Ambulance Services in South Dakota***

Volunteerism remains the backbone of rural EMS in South Dakota. However, most services are reporting a steady decline in the number of volunteers on their roster. Of the 95 services utilizing volunteers:

- 73 agencies report having 15 volunteers or less on their roster;
- 62 agencies have 10 active volunteers or less on their roster;
- 92 agencies report having challenges with staffing and scheduling; and
- 74 agencies report challenges with recruitment.

As the number of volunteers on rosters declines, fewer people are left carrying the load. Some volunteers report high levels of stress related to ensuring someone is available for calls. Some services are operating with three to five volunteers taking the bulk of the call time and responses. Many of the volunteers staffing rural services in South Dakota are over 50 years of age, and some are over the age of 70.<sup>15</sup>

### ***Reliability***

Reliability is a key indicator of EMS performance. Reliability is about being able to respond in a timely manner when EMS is needed and summoned. There are two key reliability measurements:

1. Whether or not an agency is able to respond to calls when requested; and
2. The time it takes an agency to staff a unit and start heading to the response location (referred to as “chute time”).

---

<sup>12</sup> From interviews with rural EMS volunteers in North Dakota, South Dakota, Nebraska, Wyoming, and Minnesota, 2009–2019 by SafeTech Solutions, LLP

<sup>13</sup> Sparks, S.D. (July 2018) Volunteerism Declined Among Young People: Yet interest in doing good reached a high point. Retrieved from <https://www.edweek.org/ew/articles/2018/07/18/volunteerism-declined-among-young-people.html>.

<sup>14</sup> From interviews with rural EMS volunteers in North Dakota, South Dakota, Nebraska, Wyoming, and Minnesota, 2009–2019 by SafeTech Solutions, LLP

<sup>15</sup> Data and information from a 2016 survey of all transporting EMS agencies in South Dakota and from listening sessions conducted with EMS Agencies across South Dakota by SafeTech Solutions, LLP

In a 2016 survey of all ambulance services in South Dakota, 32% of services using volunteers self-reported missing calls or being unable to respond to a call because of staffing shortages. In addition, 29% self-reported delayed response due to staffing shortages.

## **V. What Is the Future of EMS in South Dakota?**

As operating today, many rural ambulance services in South Dakota are not sustainable. Even though some volunteers are being recruited, in most rural communities, aging volunteers are not being adequately replaced by a new generation of volunteers. These services will need to transition to become paid services, consolidate, regionalize, or close. And rural South Dakota is not alone. There is both a national and statewide shortage of professional or fully paid EMS workers. A growing and important challenge going forward will be the development of an EMS workforce.

The future will likely include fewer ambulance services in South Dakota with more regional approaches to both funding and the delivery of services. Regionalized approaches will likely emerge to address workforce development, leadership, education, staff sharing, the development of sustainable services, the coverage of sparsely populated areas, interfacility medical transports, and the use of first response, BLS ambulances, ALS ambulances, and air-medical resources.

In the near-term, it is likely that most rural South Dakota ambulance services using volunteers will continue to operate but with fewer people on their rosters carrying more responsibility and stress. Communities will continue to use volunteer EMS as long as possible because it is a good financial deal for the public, the tax payer, and the patient who needs EMS.

That said, prudent communities and community leaders will begin to look to the future and consider the current challenges as opportunities to develop sustainable EMS. Indeed, many rural communities across the United States are beginning to develop sustainable EMS by recognizing that EMS is an important, vital, and essential service, similar to that of law enforcement, public education, public works, and public health.

Community leaders should think about the future of EMS in South Dakota by considering both state/regional and local opportunities for development and change.

At a state or regional level, rural South Dakota communities will benefit from the exploration of the following questions:

- Is EMS a vital and essential public service that should be available to any resident or visitor who experiences a need and calls 911?
- Should EMS be viewed as less than essential, simply driven by the market?
- Who or what entity should be responsible for ensuring EMS is provided in any given geographic area? Should the responsibility exist at the state, county, township, or municipal level, or should the provision of EMS be optional?
- How should primary service areas be designated? Who will be responsible for a service area when an ambulance service closes?
- Should we pursue federal or state funding for EMS operations that provide coverage for federal and state highways, parks, and recreational areas?
- Is there a need for a review of the laws and rules that regulate EMS, including the laws that separate EMS between the Department of Health and the South Dakota Board of Medicine and Osteopathic Examiners?

At a local level, rural South Dakota communities will benefit from an exploration of the following questions:

- Is our local EMS sustainable over the next 5–15 years?
- Is our community currently expecting too much from too few, and are we appropriately sharing the responsibility for the provision of local EMS?
- What will be the key indicator that tells us when we need to change/close/consolidate?
- What is the full value and cost of the services we currently have?
- How do we honor the dedication, commitment, and pride of our current providers and help both our EMS workers and the community prepare for the future?
- In what ways can we lead the exploration of more collaboration and regional approaches to the delivery of EMS?
- How might we begin the development of sustainable funding for our local EMS?