# A CRISIS AND CROSSROAD IN RURAL NORTH DAKOTA EMERGENCY MEDICAL SERVICES

*A report on an assessment of challenges facing EMS in rural North Dakota*

For the North Dakota Rural EMS Improvement Project

By SafeTech Solutions, LLP

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**Acknowledgements**

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- the dedication of Tom Nehring, Ed Gregoire, Lindsey Bratvold Narloch, and the entire staff of the Division of EMS and Trauma who consistently demonstrate a desire to improve EMS in North Dakota for everyone;
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## Executive Summary

Rural EMS in North Dakota faces a growing and potentially dangerous crisis.

On the surface, this crisis is about declining volunteerism and the difficulties associated with ensuring ambulances are appropriately staffed and able to respond when needed. But at a deeper level, this crisis is about navigating a major change in how rural EMS is led, understood, envisioned, valued and funded in North Dakota.

Because rural ambulance services often have low call volumes and limited reimbursement from transports, they have relied on the subsidy of donated or volunteer labor to make operation possible. The donated labor (we call it the "volunteer subsidy") adds up to a value of more than $31 million per year in North Dakota. In the last decade, that subsidy has begun to go away. Rural residents no longer volunteer in the same numbers they once did and, increasingly, rural ambulance services need to incentivize staff with call pay, run pay and, in some services, even full wages.

The volunteer subsidy is disappearing due to changes in socioeconomics (people have less time), demographics (many communities are aging and depopulating), attitudes (younger residents do not feel the same about volunteering as previous generations) and the increasing demands of EMS (longer transports, more training and expectations). This has left a shrinking pool of potential volunteers and shrinking service rosters in many communities. All indicators suggest this shrinking will continue in coming years.

The impact is serious. As rosters shrink, fewer people take more calls and do more runs. Some EMS workers are on call for days and weeks at a time. Some ambulance services rely on two or three active people for most of their calls, and a few services have trouble mustering crews at certain times of the day or week. Some services are experiencing delayed response, and some are even missing calls. Such a situation is dangerous for patients, the public and for overworked EMS workers.

Addressing this crisis will not be easy. No mandate exists for the provision of EMS in North Dakota, and it is not clear who is ultimately responsible for the provision and funding of rural EMS. State government has begun to provide some funding to address the crisis in the form of staffing grants. These are helping, but money alone will not fix this crisis. A fundamental change is needed in the way rural EMS is represented, valued, funded and operated.

This emerging crisis demands a multifaceted approach that recognizes the importance of local leadership. This approach should include:

- ***Recognizing that the roots and future of rural EMS in North Dakota are local.*** Today, the important decisions about rural EMS in terms of who provides it, how it is provided,

and the quantity and level of care are all made locally. Each area or region of the state has unique needs and resources, and no single solution fits all services or areas.

- ***Developing the capacity of local ambulance service leaders*.** The local ambulance service leader is one of the most important roles in North Dakota rural EMS. Investing in the development of local leadership helps local services develop the capacity to address their unique challenges locally. The best-run rural ambulance services in North Dakota have stable, prepared, respected, and proactive leadership.

- ***Facilitating collaboration between ambulance services.*** Many services will not be sustainable on their own and will need to develop regional approaches to leadership, education, resource deployment, staffing, funding and medical direction. Some of the best efforts that address this crisis in North Dakota involve collaboration and regional approaches.

- ***Telling a simple, unified story about rural EMS*.** To obtain the appropriate attention and support, rural EMS in North Dakota will need to tell a collective story about this crisis, the real cost of operating ambulance services and the emerging financial and workforce needs. This story will need to be told repeatedly to EMS providers, taxpayers, voters and municipal, township, county and state government in the coming years.

- ***Ongoing EMS workforce planning and development*.** To ensure that rural EMS has enough human resources in coming years, the practice of workforce planning and development will need to be promoted and led at a state level.

- ***Measuring simple, practical and meaningful indicators of system performance.*** To ensure the performance of rural EMS continues to be strong through this change and into the future, measurement and monitoring of such things as response reliability, chute times, the numbers of active rural EMS workers, and the delivery of appropriate clinical care should occur at local, regional and state levels.

- ***Connecting rural EMS with healthcare and public safety*.** EMS straddles healthcare and public safety and has the ability to function in both arenas. Rural EMS must continue to explore how it might broaden its services and employ its personnel by exploring cross-training possibilities in roles such as community paramedics or other roles compatible with EMS.

## Introduction

Rural out-of-hospital emergency medical services (EMS) in North Dakota faces a growing and potentially dangerous crisis. On the surface, this crisis is about declining volunteerism and the difficulties associated with ensuring ambulances are appropriately staffed and able to respond when needed.

At a deeper level, this crisis is about navigating a major change in how rural EMS is led, understood, envisioned, valued and funded. It is about how rural EMS is provided, organized and supported at the local level, the regional level and the state level. The crisis presents a crossroad for rural EMS where the direction and quality of EMS will be determined by the management of this crisis.

This crisis dwarfs all other EMS issues in North Dakota and is the primary focus of this report.

## Background to the Report

Rural regions across the United States face increasing challenges in meeting out-of-hospital emergency medical needs. Changing demographics, declining volunteerism, increasing costs, insufficient revenues, and continuing high public expectations for emergency medical response are challenging old ways of thinking and inviting innovative approaches to the future.

In 2008, EMS leaders in North Dakota sought to learn more about emerging rural challenges and address issues of EMS leadership, recruitment and quality. In 2009, the North Dakota Legislature enacted a bill[1] that appropriated a one-time competitive grant from the insurance premium tax distribution fund for the 2009-2011 biennium to create the North Dakota Rural EMS Improvement Project (NDREMSIP) to be overseen by the Division of EMS and Trauma (DEMST). In May 2010, the project was awarded to SafeTech Solutions, LLP, a national EMS consulting firm with specific experience in strengthening rural EMS systems and developing rural EMS leaders. The project funding period ended on June 30, 2011.

An element of the project called for an assessment of rural EMS in North Dakota. Early in the project, as project team members and the leadership of the DEMST met with rural ambulance service leaders and EMS workers across the state, it became clear that a fundamental change was occurring in rural EMS in North Dakota. This change involved the challenge presented by changes in rural communities and the decline of volunteerism. The DEMST requested the assessment seek to understand this problem and help clarify a path forward to ensure rural EMS in North Dakota meets needs and is strong.

## Methodology

The project team intentionally set out to approach the challenges in rural North Dakota EMS from the perspective of “not knowing” – meaning they sought to keep open minds and did not

[1] ND Senate Bill 2004

attempt to apply any templates or ready-made solutions.[2] They also sought to conduct the project with full openness and invited the DEMST staff and the NDEMSA leadership to participate with them in meetings, interviews and conversations. While the assessment at times employed unconventional methods, it sought to gather relevant quantitative and qualitative data gleaned from a variety of sources, including:

- Day-long information-gathering meetings with ambulance service leaders around the state (all ambulance services were invited to participate);
- A survey of all ambulance services (80 of 134 surveys were returned);
- A review of EMS data from the DEMST;
- A review of NHTSA assessments of the state conducted in 1992 and 2008;
- A review of reports and papers relevant to EMS;
- Interviews with emergency medical responders, members of quick response units (QRUs), and ambulance service leaders and workers throughout the state;
- Reports from local and state agencies, academia, industry, and the news media;
- Extensive interviews with the DEMST director and staff;
- Interviews with the leadership of the North Dakota EMS Association;
- More than 100 conversations with key informants (local politicians, public safety officers, physicians, hospital staff, dispatchers, local school administrators, business owners, legislators, healthcare representatives and local citizens); and
- Visits to ambulance services, hospitals, schools, and county meetings.

Because quantitative data was limited and because many of the issues involved in EMS are rooted in local practices, opinions, beliefs and traditions, the assessment sought to go beyond gross measurements and understand the subtleties of the issues and challenges. To that end, the assessment and this report draw generously on observations, experiences, media reports, reflections and opinions of the key informants. The identities of key informants were kept confidential to encourage participation and candor.

Data was reviewed and evaluated by the assessment team, looking for themes and trends with an eye toward local challenges and opportunities. Specific recommendations were formed from an analysis of data, best practices elsewhere and from what was learned from areas of excellence in North Dakota.

The report is organized to present findings in a manner that is easily searchable and readable.

## Limitations

This assessment is based on limited data and research and is not a scientific or technical study of EMS in North Dakota. Specifically, the assessment was limited by several factors, including a shortage of reliable quantitative data, incomplete data reporting, lack of participation by some ambulance services, the lack of a statewide EMS performance tracking systems, and limited time and resources. The assessment primarily focused on the challenges facing rural ambulance services and did not include a broad survey of residents, EMS users or healthcare providers.

[2] EMS assessments often apply templates such as the *Rural EMS Agenda for the Future*.

## EMS in North Dakota

Out-of-hospital emergency medical services in North Dakota are the services residents and visitors utilize to gain rapid medical help and transportation in the event of a medical crisis. These services also provide emergency and non-emergency medical transportation between hospitals, nursing homes and other healthcare facilities. Services are provided by a variety of agencies, entities and resources and are regulated by the North Dakota Department of Health's Division of EMS and Trauma (DEMST). While the DEMST sets requirements and rules for the licensing of EMS agencies and personnel, the quantity of services provided, levels of care provided, and to some degree, the quality of services are all determined and controlled at a local level.

**Current EMS Resources**

- 23 public safety answer points (PSAPs);
- 81 non- transporting first responder agencies known as Quick Response Units and an assortment of police, sheriff and fire department first responders resources;
- 134 ground ambulance services, 7 air medical, 4 industrial; and
- 5,627 licensed EMS providers (first responders, EMTs and paramedics).

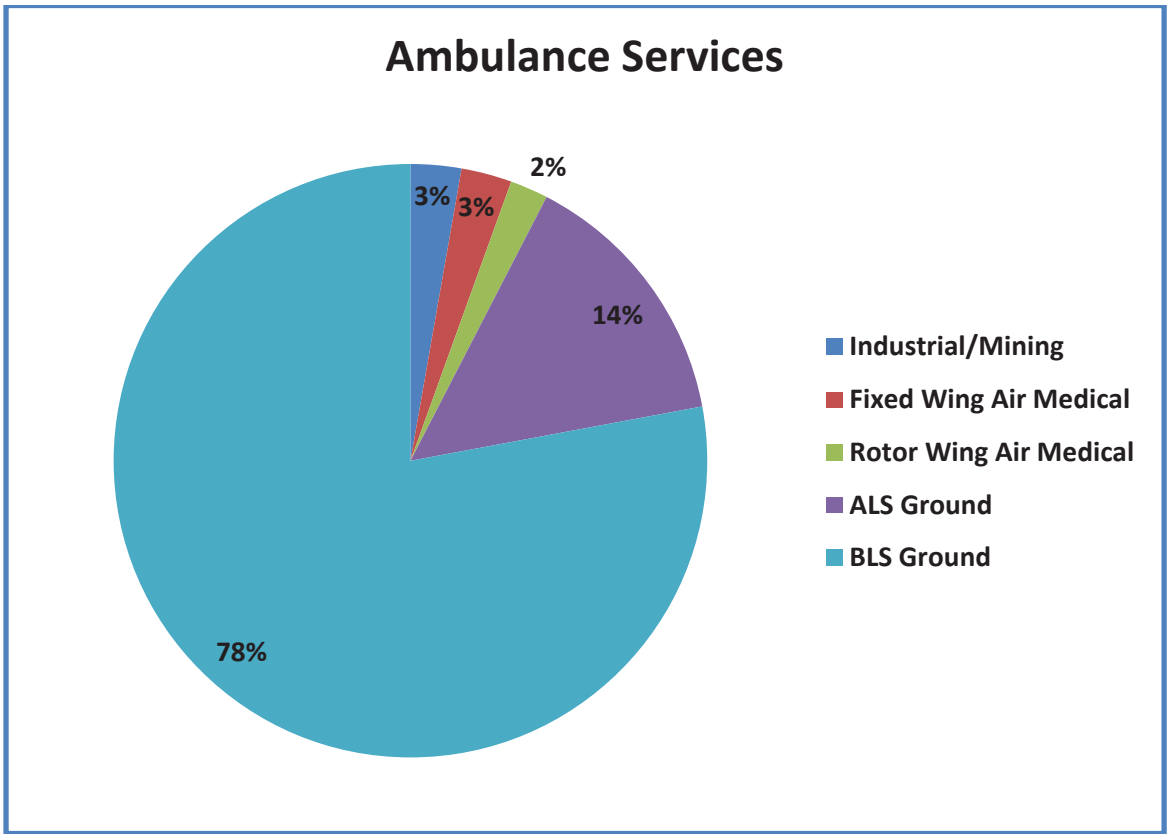
Emergency medical services are primarily accessed through an e911 telephone system answered by 23 PSAPs (one is located in South Dakota) that dispatch more than 710 law enforcement, fire, and emergency medical responding agencies. Most PSAPs serve a county or several counties. One PSAP answers calls for 22 counties and dispatches more than 40 ambulance services and is operated by the North Dakota Department of Emergency Services Division of State Radio.[3] PSAPs are not regulated by the DEMST and do not routinely report to the DEMST on the performance of EMS. County PSAPs are funded locally and with various grants. The Division of State Radio is funded by state revenues.

When a request for emergency medical help is received, PSAPs dispatch first responders and ambulance services. First responders include non-transporting emergency medical responder agencies known as Quick Response Units (QRUs), law enforcement agencies and fire departments. First responders provide an initial assessment of the medical situation and administer basic medical care until an ambulance arrives.

North Dakota has no state mandate that all areas be served by first responders, and many areas of the state have no regular first responders, only ambulance response. Many rural ambulance services report routinely responding alone to the scene of an emergency and only summoning public safety and fire departments for safety concerns, possible criminal activity, rescue or extrication services, or when extra hands are needed.

[3] *Emergency Services Communication in North Dakota: A Status Report, 2010*

QRUs exist under a variety of organizational structures, including private not-for-profits, municipal government and fire departments, and are funded by donations, local tax revenues, grants and local fundraising. QRUs are regulated by the DEMST, and they must be registered by the state and meet certain standards and requirements to operate. QRUs are not required to respond to every request for help and may not respond if staffing is not available. [4]



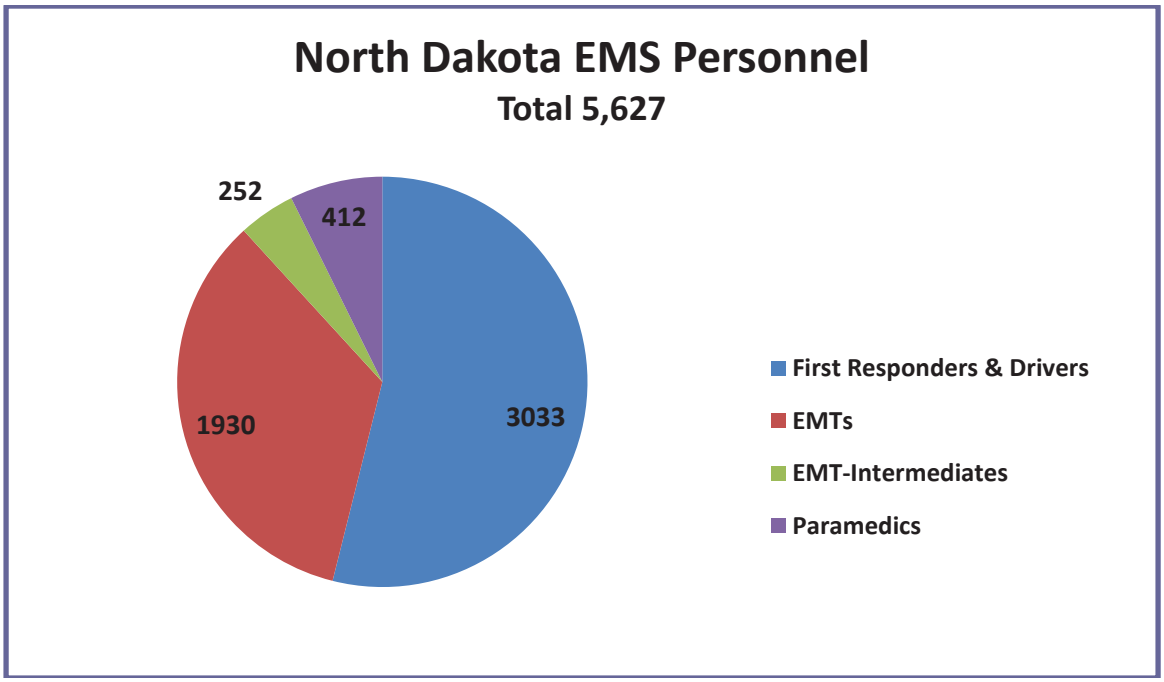

Ambulance services in North Dakota are the backbone of out-of-hospital EMS in the state. They are the most regulated and active component of out-of-hospital EMS, responding to more than 61,000 calls annually, and they are an essential ingredient of every call for help, providing both treatment and transportation as needed. Ambulance services are organized through a variety of structures, including private not-for-profit corporations, municipal and county governments, for-profit businesses, joint powers authorities, hospitals and fire departments. Ambulance services are funded through donated labor, medical transportation reimbursements, local tax subsidies, donations, fundraisers and grants. They are regulated by the DEMST.

[4] North Dakota EMS Rules, Chapter 33-11-01.1

Ground ambulance services are required by state law to have at least two persons on each call and to respond 24 hours a day to every request for service.[5] Ambulance services are licensed at either a basic life support level or an advanced life support level.

Each ambulance service must have a physician medical director and written medical protocols.[6] Patients are transported to the closest appropriate care facility and in accordance with any online medical direction that may be received. [7]

A BLS service must have a driver with CPR certification and an EMT-Basic ambulance attendant. A driver with no CPR certification may be used if a third person with CPR certification is added to the crew. An ALS service must have a driver with EMT-Basic certification and an attendant with EMT-Paramedic certification. A third person without EMT or CPR certification may be added to the crew to drive. A registered nurse who is currently certified or licensed as an ECT or its equivalent with CPR and Advanced Cardiac Life Support certification may be used in place of the EMT-Paramedic.[8] All drivers of ambulances must have EVOC training. [9]




The initial and ongoing training and education of EMS workers is accomplished through a variety of local instructors, training sites and institutions. Training, testing and certification requirements are regulated by the DEMST.

[5] An ambulance services is exempt from response if it has received a temporary waiver from the DEMST exempting it from response or if the service is already in service and unable to respond.

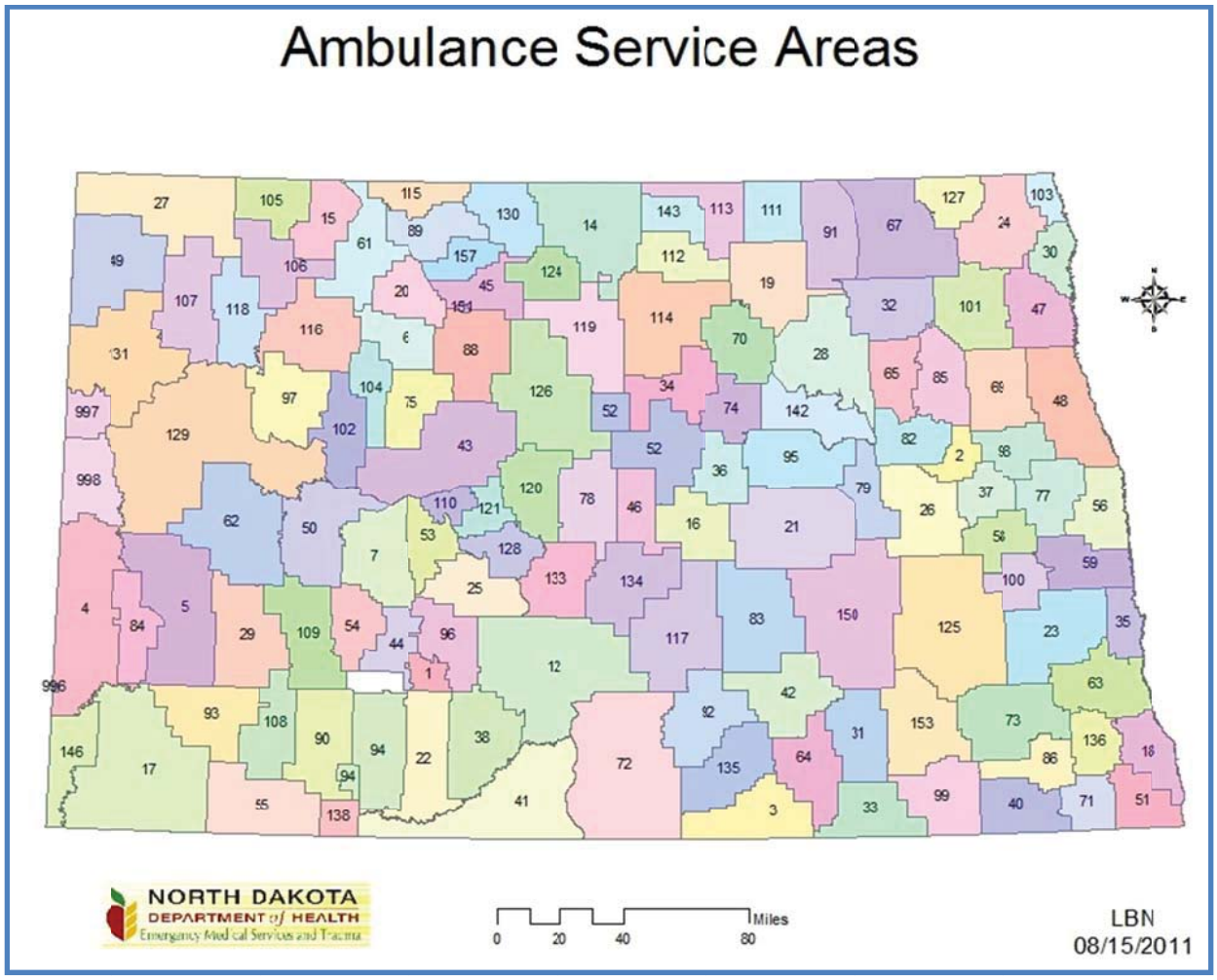
[6] North Dakota EMS Rules, Chapter 33-06-04

[7] North Dakota EMS Rules, Chapter 33-38-01

[8] North Dakota EMS Rules, Chapter 33-36-01

[9] North Dakota EMS Rules, Chapter 33-36-01

The state is divided into ambulance service areas, with each ambulance service being assigned an area (except for air medical ambulances, and industrial and mining ambulances). These areas are determined by local county 9-1-1 in such a way that the closest ambulance in response time is designated to respond. [10] Ambulance services are required to have ambulance vehicles in motion to calls within 10 minutes of being dispatched. Ambulances are required to arrive on the scene within 9 minutes of dispatch in urban areas; within 20 minutes in rural areas; and within 30 minutes in frontier areas. [11]



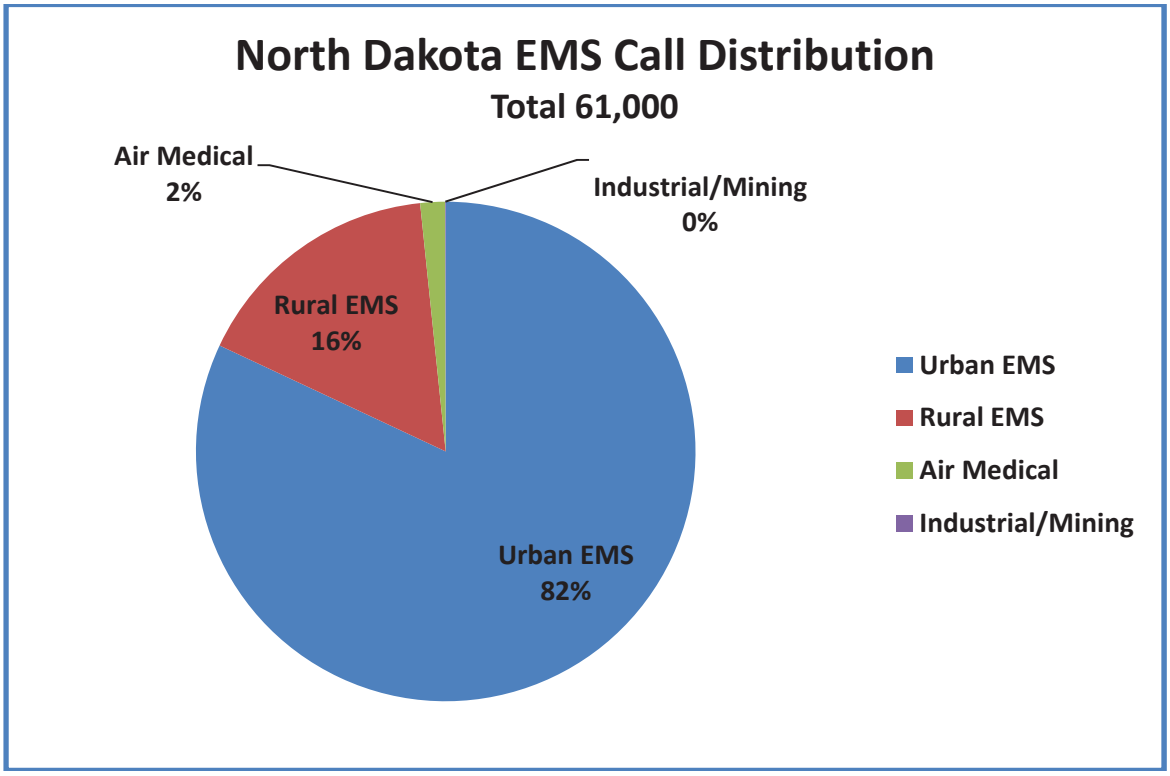

Air medical resources supplement local ground-based ambulances and are primarily utilized for interfacility transports. Air medical helicopters based in Minot, Fargo and Linton provide occasional emergency scene response when requested by ground ambulance services and frequently perform interfacility transports. Fixed-wing resources respond from within North

[10] North Dakota Century Code 57-40.6-10

[11] North Dakota EMS Rules, Chapter 33-11-01.2-17

Dakota and from surrounding states and provide interfacility transports. Air medical resources are licensed and regulated by the DEMST. [12]

Currently, ambulance services in North Dakota report approximately 61,000 requests for service per year.




Educational support, professional development and advocacy for EMS is provided by the 1,600-member North Dakota EMS Association (NDEMSA), whose mission and vision is to provide its members "equal and effective representation, educational services, and access to valuable resources" and "be a unified voice and leading resource for pre-hospital emergency medical service providers in North Dakota, thus ensuring exceptional patient care."[13] Several county or regional associations exist to provide collaboration, education, and distribution of local monies.

## Indicators of EMS Performance in North Dakota

Assessing the quality of rural EMS performance involves quantitative and qualitative indicators.

The prime quantitative data[14] indicators of rural EMS performance are:

[12] North Dakota Century Code, 23-27-04

[13] www.ndemsa.org/membership.shtml

[14] *Quantitative data* describes information that can be counted or expressed numerically. Qualitative data may be expressed in numbers, graphs, histograms, tables and charts.

- Response reliability (measures percentage of response to requests for service);
- Chute time – the amount of time that elapses from a call for help until an ambulance is in motion toward the scene of the emergency (this measures staff availability and responsiveness);
- Clinical performance of EMS workers (this measures how reliably EMS workers' documented actions match medical protocols); and
- Clinical outcomes of patients EMS has cared for (this measures patient's clinical response to EMS clinical interventions).

In North Dakota (and most other rural states), there is currently a paucity of reliable quantitative data to accurately measure these performance indicators. In North Dakota, PSAPs do not routinely report response reliability or response time data to the DEMST. Since 2007, the DEMST has begun to collect some self-reported response time data and some clinical data. This data is incomplete and not yet reliable enough to provide indicators of reliability, chute time, clinical performance and clinical outcomes.

The prime qualitative data[15] indicators of rural EMS performance are the opinions of key informants and the presence or absence of media reports or criticisms. Qualitative data on the clinical performance of out-of-hospital EMS in North Dakota suggests no current significant clinical issues are associated with the delivery of EMS. With only a few exceptions, key informants, including EMS medical directors, local physicians, hospital administrators, nursing home administrators, emergency department nursing staff, and clinic staff, all spoke highly of rural EMS and reported being satisfied with the clinical care provided by EMS across the state.[16] Many informants did express concerns that the increasing shortage of EMS workers could eventually result in compromises to clinical care.

Qualitative data on response reliability and response times provided by key informants, including local EMS agency workers and leaders, public safety agencies, dispatchers, 9-1-1 coordinators and local residents, suggests that most services are reliable and meeting public expectations for response times (meaning no large public outcry has been heard about long response times). However, informants reported that some rural services are routinely unavailable for service because of lack of staffing, some services are increasingly requiring multiple pages to muster a crew, and informants reported some chute times of 30 to 45 minutes or longer.

[15] *Qualitative data* describes items or subjective findings in terms of qualities that may not be measurable numerically. Sources of qualitative data may be anecdotes, interviews, comments, stories or reports.

[16] Exceptions were concerns about a few specific individual EMS workers in certain services not having enough experience or clinical oversight or intentionally acting outside of medical protocols.

Currently, accurate data is not being reported to DEMST on response failures or long chute times despite having a process and form for such reporting.[17] Currently, no specific measures of clinical performance are being regularly monitored statewide.

## The Crisis

A crisis is an event or series of events that leads to instability and possible danger. A crisis often signifies emerging change. The decline of volunteerism in rural EMS in North Dakota is leading to both instability and change in the way EMS has been provided for more than 40 years. The decline of volunteerism also presents dangers to people who rely on EMS and to the workers who provide these services.

The catalyst for this crisis is the gradual and ongoing disappearance of the primary subsidy of rural EMS. For the past 40 years, more that 75% of the cost of providing EMS in rural North Dakota has been subsidized by donated labor.

Nearly all ambulance service leaders encountered during the assessment period reported significant challenges in their ambulance service or a neighboring service associated with the disappearance of donated labor.[18] The assessment found that:

- The recruitment of volunteers is significantly more difficult than a decade ago;
- Volunteers are aging and not being replaced by new volunteers;
- Forty-six percent of people listed on service rosters are inactive;
- The need to provide financial incentives for volunteers to be on a schedule for calls and to respond on calls is increasing (these incentives vary from token amounts to full wages);
- Only 38% of members listed on rosters were reported as frequently taking calls;
- Some EMS workers are taking more than 120 hours of call time per week (one service leader reported being on call continuously for more than 200 days without relief);
- Thirty-five percent of ambulance services have difficulty filling schedules during certain times of day or week;
- Some services reported having 2 to 5 active members remaining in their services (services with few members often did not participate in NDREMSIP activities); and
- Some services reported expecting to close within the next 5 years.

This decline in volunteer labor comes at a time when reliance on rural EMS is increasing because of the ongoing consolidation of rural healthcare resources and the regionalization of medical specialties such as cardiac care, stroke care, trauma care, orthopedic care, obstetric and neonatal care, and psychiatric care.

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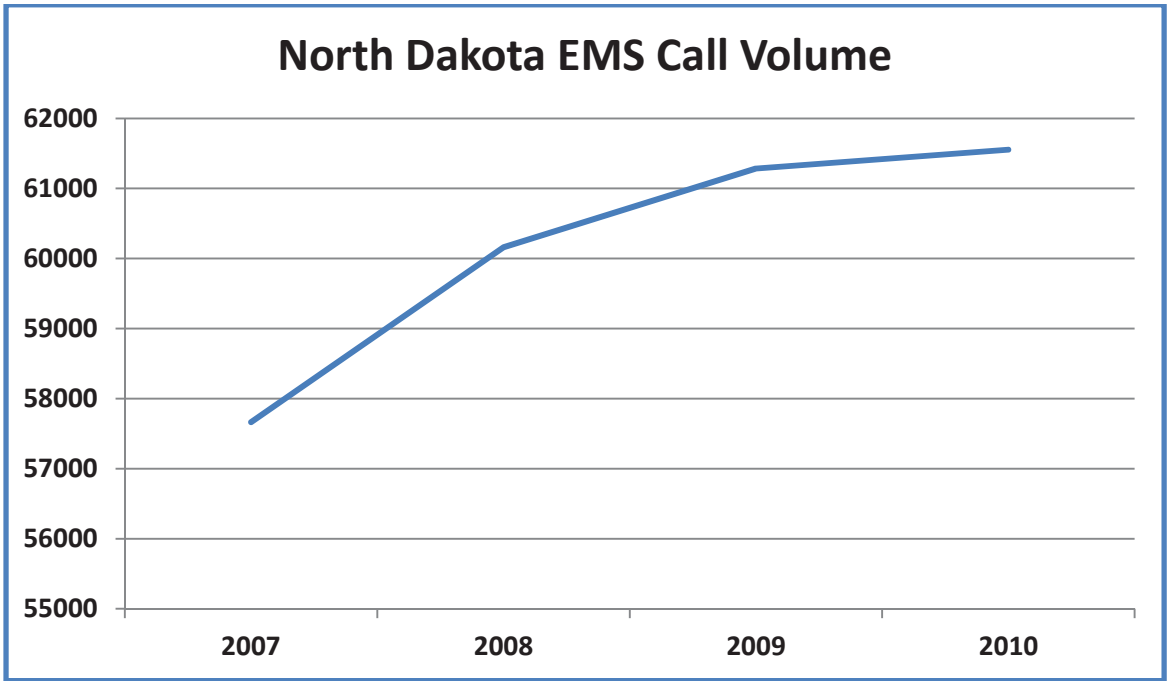
[17] A form for reporting response failures and long chute times can be found at http://ndhealth.gov/EMS/Reports/AmbulanceDispatch.aspx

[18] NDREMSIP had contact with more than 100 ambulance service leaders in 2010-2011 through summit meetings, interviews, regional consultants, leadership training, recruitment workshops and a survey returned by 80 ambulance services.

In 2004, the National Rural Health Association published a vision for the future of rural EMS in the United States and predicted increasing reliance on rural EMS because "rural and frontier settings have limited and shrinking local healthcare resources." [19]

During that last four years, North Dakota has seen a 7% increase in EMS activity statewide.[20] Some areas, such as the oil and energy development region, have reported much larger increases in requests for service.[21] Many ambulance services have reported significant increases in the time workers spend on transports because of the regionalization of medical specialties. [22]




This increasing reliance on EMS is having a critical impact on rural EMS. In 2005, a report from the International City/County Management Association (ICCMA) described EMS systems as "bending — and in some cases breaking — under the strain of rising costs, reduced subsidies, and increasing services expectations." [23]

[19] *Rural and Frontier Emergency Medical Services: Agenda for the Future*. National Rural Health Association. 2004. p. 5.

[20] DEMST statistics

[21] See *The Impact of Oil and Energy Development on Out-of-hospital Emergency Medical Services, 2011*

[22] NDEMSIP interviews

[23] *Rural and Frontier Emergency Medical Services: Agenda for the Future*. National Rural Health Association. 2004. p. 5.

In 2006, the federally funded Institute of Medicine's report, *Future of Emergency Care: Emergency Medical Services at the Crossroads*, described rural EMS in America as facing a multitude of challenges. The report states, "providing adequate access to care presents a daunting challenge given the distances required to provide care and the limited assets available." [24]

> EMS services are bending — and in some cases breaking — under the strain of rising costs, reduced subsidies, and increasing services expectations.
>
> *-ICMA*

In 2008, a nationwide assessment of the EMS workforce funded by the federal government and conducted by the University of California San Francisco Center for the Health Professions described the recruitment and retention of EMS providers as one of the greatest challenges facing rural EMS. [25]

## Roots of the Crisis and the Volunteer Subsidy

To understand the nature of this crisis and how North Dakota might move toward solutions, it is necessary to have an understanding of how rural EMS developed and is funded.

Modern EMS has its roots in the 1960s, when concerns about soaring highway traffic deaths led the federal government to fund a study on accidental death in America. The concerns resulted in a report, published in 1966, highlighting the need for improved out-of-hospital emergency medical services, especially in rural areas where trauma injuries and deaths were (and remain) most prevalent.[26] Congress responded and began funding EMS development through a variety of projects and funding mechanisms.

> EMS developed locally and organically without any large-scale planning.

In 1973, Congress passed the Emergency Medical Services Systems Act, which eventually led to the formation of a plan for the development of geographic EMS regions across the United States. The framers of the plan wanted to ensure that EMS everywhere met certain standards and envisioned the development of 304 EMS regions that each conformed to 15 "essential EMS components."[27] In the early 1980s, before these regions could be established and become self-sufficient, federal funding for regional EMS

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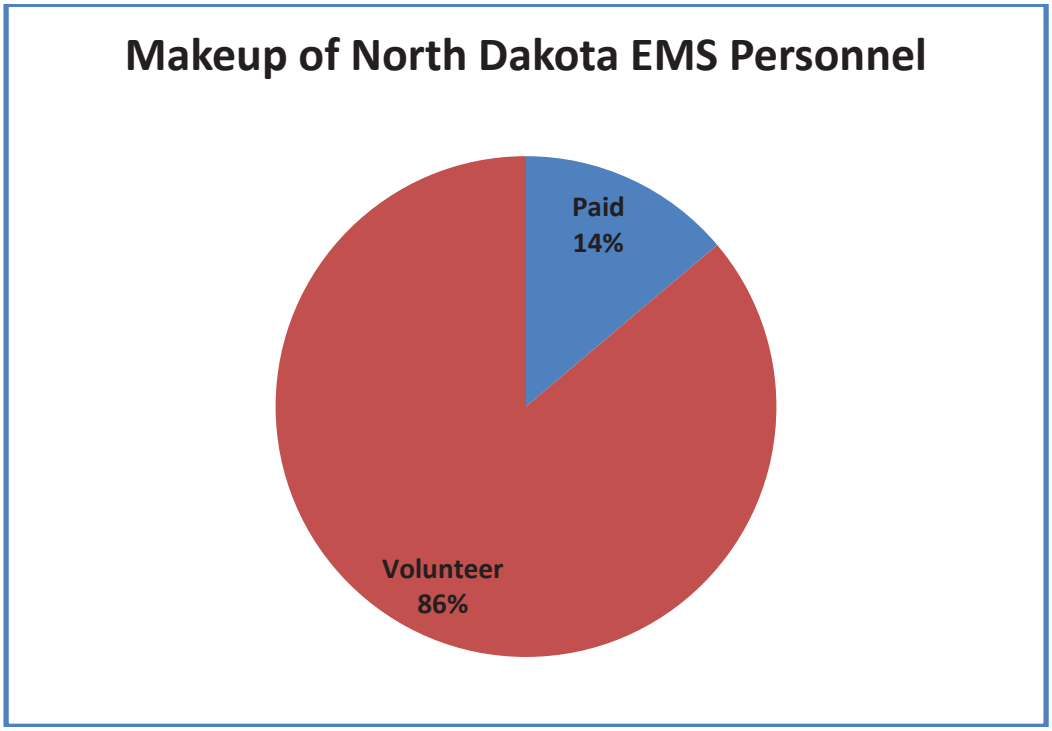
[24] *Future of Emergency Care: Emergency Medical Services at the Crossroads*. Institutes of Medicine of the National Academies. 2006. p. 48.

[25] *EMS Workforce for the 21st Century: A National Assessment.* National Highway Traffic Safety Administration: Office of Emergency Medical Services. 2008. p. 59.

[26] Division of Medical Sciences, Committee on Trauma and Committee on Shock (September 1966), *Accidental Death and Disability: The Neglected Disease of Modern Society*, Washington, D.C.: National Academy of Sciences-National Research Council.

[27] "History" by Post, C. and Treiber, M. in *Prehospital Systems and Medical Oversight*. A. Kuehl, Ed. National Association of EMS Physicians. Dubuque, IA: Kendall/Hunt Publishing Co. 2002. pp. 3-19.

development was eliminated, leaving local communities to develop EMS with little or no regional planning and funding. EMS did not develop according to any large-scale planning, but simply developed organically at a local level.




EMS developed in rural North Dakota without state or regional planning and with no mandate for the provision of EMS. Ambulance services were created locally where there was need, local interest and resources. In populated areas, reimbursement for medical transportation funded the ambulance service without additional subsidies.[28] In rural areas, where volumes of medical transports were low subsidies were needed. The subsidies included donations, local tax revenues and volunteer labor. By far, the largest subsidy of rural ambulance services came to be volunteer labor.

North Dakota law requires ambulance services be available 24 hours a day and maintain a written schedule with at least two qualified providers available to have the ambulance responding within 10 minutes.[29] Today, in North Dakota, the cost of operating a ready-to-respond ambulance with two EMS workers scheduled to respond within 10 minutes is approximately $358,730 annually. The total cost of operating 120 rural ambulances in North Dakota is estimated at more than $40 million annually[30] and does not include the fact that some services operate more than one ambulance.

[28] In studying dozens of rural EMS systems, SafeTech Solutions, LLP, has learned that an ambulance service needs approximately 650 paying transports annually to fund one 24/7 BLS ambulance without a subsidy.
[29] North Dakota EMS Rules Chapter 33-11-01.2
[30] $358,730 x 120

This cost is an estimated average based on interviews with North Dakota ambulance service leaders, the consultants' extensive knowledge of rural EMS costs[31] and the value of volunteer labor specific to North Dakota as determined by The Independent Sector and based on Bureau of Labor Statistics wage statistics.[32]

The cost of a maintained ambulance vehicle, equipment, supplies, a facility and other operational costs (excluding labor) add up to approximately $70,000 per year. Labor costs are $288,730 per year. These costs are based on two people being available 24 hours per day at a wage of $16.48 per hour.[33] This hourly wage is the minimal valuation of wages and benefits to replace a volunteer at current North Dakota wages.[34]

The largest subsidizer of rural ambulance services is volunteer labor.

The $358,730 annual cost of operating a single ambulance in North Dakota is commonly covered by the following revenue sources:

- Medical transportation reimbursement from medical insurance, Medicare or Medicaid, other insurance or private payers
- Cash donations
- Other revenues such as grants
- Local mill levy, tax revenues or local governmental subsidies
- Donated labor (the volunteer subsidy)

A typical rural ambulance service in North Dakota that responds to 75 calls per year may report the following revenues:

- $37,500 from medical transportation reimbursement from medical insurance, Medicare or Medicaid, other insurance or private payers[35]
- $12,000 from cash donations
- $3,000 from grants
- $17,500 from local mill levy, tax revenues or local governmental subsidies

[31] Based on examining the costs for numerous rural EMS agencies and systems across the nation, conducting an analysis of EMS costs in North Dakota in 2008 and interviews with dozens of North Dakota ambulance service managers.

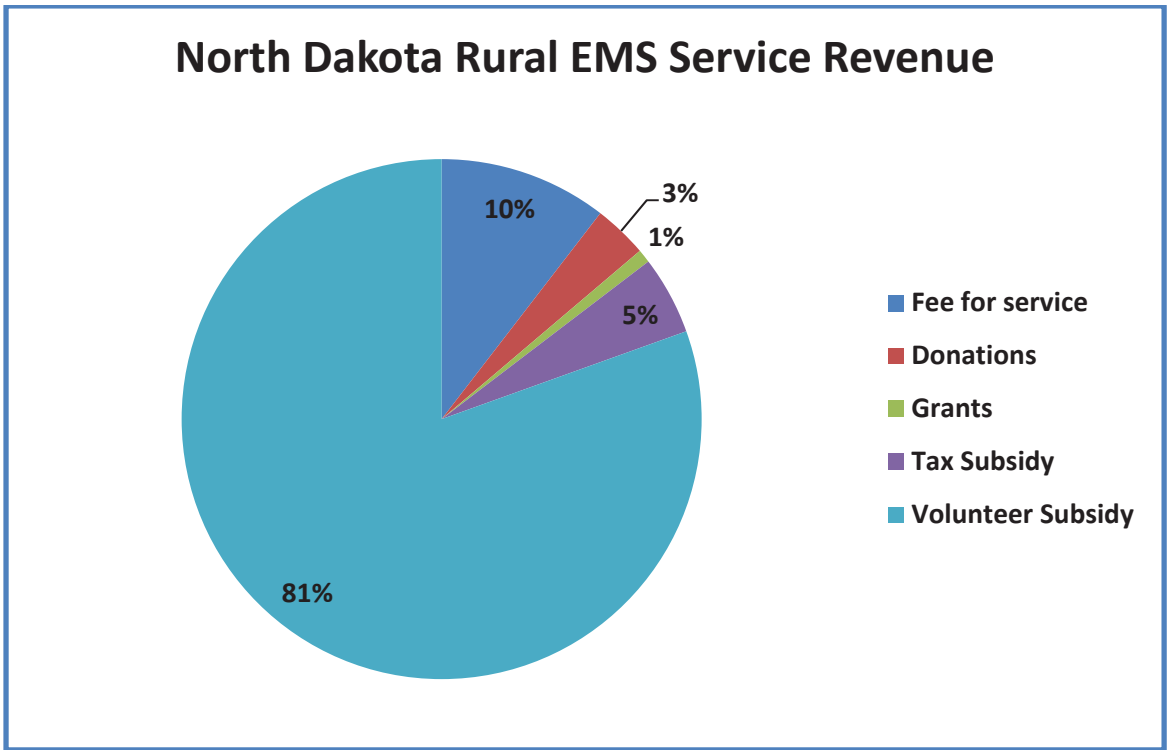
[32] The Independent Sector utilizes Bureau of Labor Statistics state wage numbers to calculate the value of a volunteer hour in each state. The Independent Sector is a leading coalition of non-profits, charitable organizations, foundations and corporate giving programs. For more information on these calculations see www.independentsector.com/volunter_time

[33] ibid

[34] This wage value is based on 2009 wage statistics and can be found at www.independentsector.com/volunter_time

[35] Based on an average collection of $500 per transport

- $288,730 from the volunteer subsidy




By far, the largest revenue source for rural ambulance service is the volunteer subsidy. However, the value of this subsidy has largely remained hidden. Over the years, when volunteer ambulance services created budgets and reported expenses and revenues, the value of the volunteer subsidy was not included. This has resulted in the masking of the real costs of providing rural EMS because labor costs or the value of volunteer labor has been excluded. Rural ambulance service leaders, rural residents, rural communities, local government, and state politicians have had false understanding of the costs associated with providing rural ambulance service.

A lack of knowledge about the real cost of providing rural ambulance services and how to manage the growing loss of this subsidy is at the core of the crisis facing EMS in North Dakota.

## Why Is the Volunteer Subsidy Disappearing?

NDREMSIP set out to understand why the volunteer subsidy is disappearing and found that changes in socioeconomic conditions, demographics, attitudes about community life and perceptions of increasing demand.

Key informants reported that socioeconomic changes resulting in increasing time demands and busier lifestyles to be prime factors in declining volunteerism. “People just don’t have the time to volunteer,” an ambulance service leader said. Informants reported that volunteers or potential volunteers:

- work longer hours and more jobs to meet economic needs;
- need more than one income to support a family;
- travel farther to work, shop and recreate;
- lack a stay-at-home parent to care for children; or
- have increasing time demands from other obligations.

Many ambulance service leaders and EMS workers have the perception that the requirements to be involved in EMS and to maintain EMS licensure are taking more time than in the past. They report that continuing education requirements, training requirements and participation in drills and exercises are taking more time than in the past and some volunteers are unwilling to donate additional time. [36] They also reported that increasing transport distances are requiring longer time commitments that have become arduous.

Informants also reported significant changes in attitudes. They reported:

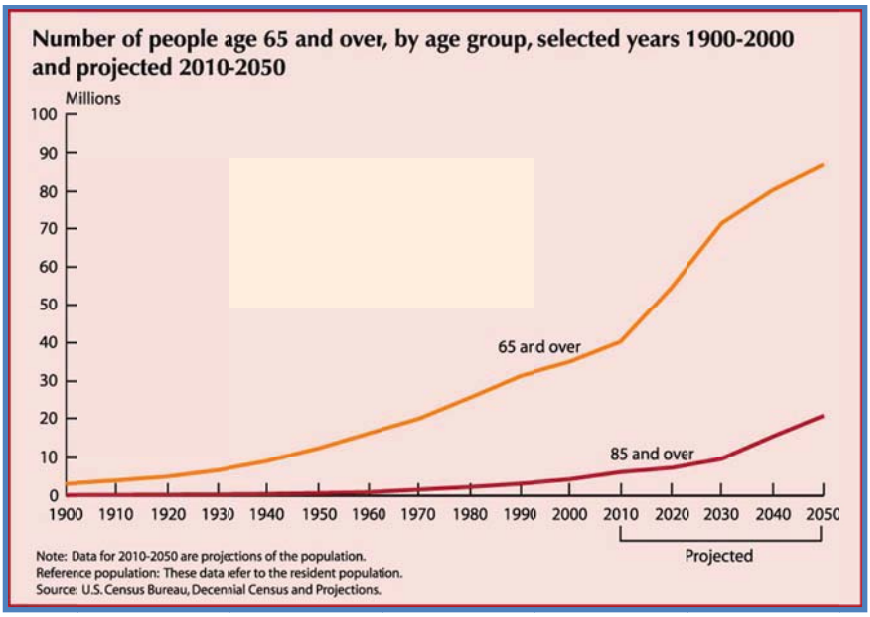
- Younger rural residents no longer see service within their community as part of their duty and obligation.
- EMS is increasingly being seen as a service that should be a paid community service similar to law enforcement, public health and road maintenance.
- Employers are less willing to allow employees to leave for EMS calls during the workday.

Some informants reported that their communities no longer have a population base that can sustain volunteerism. According to the North Dakota State Data Center (NDSDC), "decades of movement of rural residents to the larger cities have depopulated much of North Dakota . . . In the last decade, population growth occurred largely in the metropolitan and Native American reservation counties of the state."[37] The trend is expected to continue (except in areas of oil development in western North Dakota) with nearly half of the counties projected as having a population base below 4,000 residents in 2020.[38]

[36] While there is some debate about whether training and continuing education requirements have actually increased in hours, many EMS workers perceive that requirements have increased.

[37] North Dakota State Data Center, The Department of Agribusiness and Applied Economics at North Dakota State University. See report on population trends at www.ndsu.edu/sdc/data/populationtrends.htm

[38] ibid

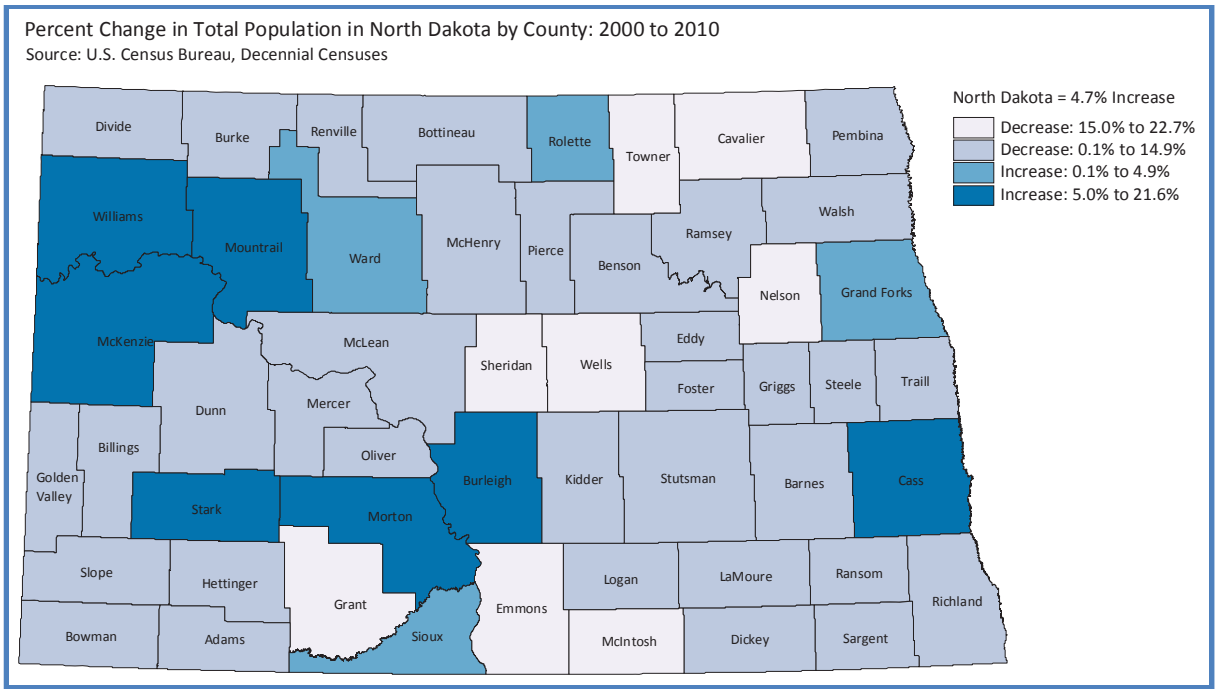



Informants reported that young people are difficult to recruit for EMS today because they often leave rural communities. NDSDC reports that the loss of rural residents in their twenties and early thirties has increased markedly since 1980 and predicts that the number of children will continue to decline in the majority of counties through 2020.[39]

This means rural populations are continuing to age. NDSDC reports that the age distribution of North Dakota's population has changed considerably over the last several decades:

> The result of these changes is reflected in the median age, which rose from 25.7 years in 1940 to 36.2 in 2000 to 37.0 years in 2010. In 1940, children ages 0 to 17 comprised 36 percent of North Dakota's total population. This proportion decreased to 22 percent in 2010. In contrast, seniors ages 65 and older comprised 6 percent of the state's total population in 1940 and increased to 15 percent in 2010. . . The year 1946 marked the beginning of the baby boom, i.e., the large cohort born during the 20-year period after WWII. Figure 1 shows this bump in population as it moves through childhood, early adulthood, and the prime labor force. Baby boomers are currently reflected in the 45 to 64 pre-retirement age group. As baby boomers enter retirement (beginning in 2011), the 65 to 84 age cohort will increase.[40]

[39] ibid
[40] ibid




Source: North Dakota State Data Center

In North Dakota and throughout the Great Plains region, there is no indication the trend in declining EMS volunteerism will stop. The pool of potential volunteers appears to have become significantly smaller and is likely to continue to decrease. Given the current trends, it is unlikely that volunteerism alone is a sustainable means of subsidizing and staffing rural ambulance services in the future.

## Discussion Questions Associated With Replacing the Volunteer Subsidy

The decline in volunteerism and the declining volunteer subsidy is resulting in a significant change in the how rural EMS is envisioned, valued, funded and maintained in North Dakota. This change raises the following questions:

- Who is responsible for providing and funding rural EMS in North Dakota?
- Does North Dakota have too many or too few ambulance resources?
- What do the social, political and financial climates suggest about potential solutions?
- Is the crisis purely a funding issue?
- Why are easy solutions elusive?
- Why is the local EMS leader/manager so important?
- Why are a few rural ambulance services doing well?
- Are there advantages to a regional approach?

### Who is responsible for providing and funding rural EMS in North Dakota?

Currently, there is no mandate for the provision of EMS in North Dakota. This means that neither federal nor state law demands that emergency medical services be provided to citizens.

Practically, this means there is no clarity in North Dakota Century Code about who is responsible for providing and funding emergency medical services.

However, without clarity, the responsibility for the provision of EMS defaults to the ambulance services themselves. Because ambulance services are required to respond to all requests for service,[41] meet specific response time requirements and because the entire geography of the state is divided among existing ambulance services, these services are required to meet whatever demand arises regardless of resources. If an existing ambulance service closes because of a lack of staff or funding, the neighboring services are required to absorb the closed ambulance service's territory by re-assignment of the closed ambulance services area. [42]

Leaders of local ambulance services and EMS workers are experiencing stress by the burden of this responsibility. An ambulance service director who is taking more than 480 hours of call time per month stated: "If I don't cover these shifts, there is no one else to do it, but I'm feeling a lot of stress."[43]

As the volunteer subsidy disappears and other revenue sources are needed to fund ambulance services, it is currently unclear who is responsible for providing those funds. Key informants reported that in recent years a legislative effort to clarify that the provision of EMS should be the responsibility of counties failed garner enough support in the state legislature.

As the volunteer subsidy declines, the issue of who is responsible for providing and funding EMS will continue to grow.

## Does North Dakota have too many or too few ambulance resources?

The answer to this question depends upon what the people of North Dakota want and are willing to pay for, and upon specific laws and regulations. The number and location of deployed ambulances has an impact on the time it takes resources to reach patients, begin care, and transport to care facilities. As stated above, rural ambulance services developed locally without regional or statewide planning. The current deployment of 120 rural ambulance services simply mirrors local EMS development patterns and does not necessarily reflect patient care needs or efficiency.

Current state regulations require rural and frontier ambulance services to arrive at the scene of emergencies in 20 and 30 minutes (respectively).[44] There is insufficient data to determine if these response time requirements are being met. While these response time requirements may appear reasonable, no scientifically validated studies currently suggest that these response time requirements are relevant to patient outcomes. The distinction between the definitions of

[41] North Dakota EMS Rules, Chapter 33-11-01.2

[42] North Dakota EMS statutes and regulations, www.ndhealth.gov/ems/Training/statutes.html

[43] NDREMSIP interviews

[44] North Dakota EMS Rules, Chapter 33-11-01.2

*rural* and *frontier* as defined by the U. S. Census Bureau is impractical for use in EMS response. While the time to definitive care in medical events such as heart attack, stroke, trauma and respiratory distress is a factor, no specific studies have been conducted that specifically outline what rural EMS response times should be.

A draft document titled "Reasonable EMS Coverage in North Dakota" was developed in 2008 by the NDEMSA and has been discussed as a possible guide for the quantity of ambulance service needed throughout the state. The document proposes where EMS resources should be deployed in terms of response times, populations, transportation corridors and hospitals. The document does not propose how resources be deployed or funded to meet the definition. [45]

Ideally, the deployment of ambulance resources and the level of care provided would follow a plan that carefully considers patient needs, geography, population, the location of care facilities and transportation times. Realistically, this planning also needs to consider the availability of human and financial resources and the desires of the people receiving and paying for services.

Currently, the level and quantity of rural EMS resources in North Dakota is determined locally. Apart from the violation of laws and regulations, the power to create and close ambulance services rests at a local level. As North Dakota moves forward in replacing the volunteer subsidy, it appears that the quantity and quality of rural EMS will be determined by a combination of what local people want, are willing to fund, the availability of non-local funding and regulations. Replacing the volunteer subsidy will raise issues of efficiency. Currently more than 50 ambulance services respond to less than one call per week.[46] It is unlikely all ambulance services will survive this crisis. However, local leadership will determine how services close, merge with other services or develop sustaining regional strategies.

The power to create and close ambulance services rests at a local level.

## What do social, political and financial climates suggest about potential solutions?

Because of how rural EMS developed and is operated in North Dakota, the social and political climate will have a significant impact on how the current crisis is addressed. Through observations, interviews, conversations, meetings with governmental representatives and political representatives, and reviews of relevant reports, the assessment found a number of social and political factors that have an impact upon rural EMS in North Dakota:

1. EMS is often *not* seen as a vital component of community infrastructure worthy of the same funding as law enforcement, public health, road maintenance, water, sewer and waste removal. Because EMS agencies may be organized outside of government, utilize

[45] This document was presented at a Public Safety Committee meeting in 2008, and a version of the document can be found at www.ndemsa.org/pdf/Defining%20Reasonable%20EMS%20in%20North%20Dakota.pdf

[46] DEMST data

volunteers and receive reimbursements for medical transportation, they are often viewed more like healthcare than as an essential local infrastructure component.

2. In many communities, how rural EMS operates and is funded is often not well understood by local residents, local government officials and state lawmakers. For example, the value of the volunteer subsidy is largely unknown and not counted as an expense of operating rural EMS.
3. Some EMS leaders and local community leaders have expressed strong sentiments about preserving local independence and about not wanting "interference" from state government. One ambulance service leader stated, "We're not going to take state money because that means they can tell us what to do. We'll keep going on our own as long as we can and then we'll close our doors." [47]
4. The state legislature is demonstrating some willingness to provide financial assistance to rural EMS agencies through staffing grants, training grants and other disbursements. During the 2011-2012 biennium, the state will provide $900,000 in training grants. In 2011, the state will provide $1.25 million in staffing grants. In 2012, the state will disburse $3 million to EMS (the process is yet to be determined). In the subsequent biennium, the state will provide $4.25 million for local EMS agencies.[48] However, during the 2011 legislative session, some legislators expressed concerns about committing the state to permanently subsidizing the full cost of rural EMS. One legislator stated, "We do not want to be in the ambulance business."[49]
5. Local entities such as municipalities, townships and counties are not universally ready or willing to take full responsibility for the provision and funding of EMS. A representative of the North Dakota Association of Counties predicted that counties would not be in favor of placing the responsibility for EMS at a county level.[50] Eight counties provide no public money for EMS. Other counties provide amounts from a few hundred dollars to $900,000. The total public monies provided for EMS through mill levies and taxing districts by counties is approximately $2.9 million.[51]

## Is the crisis purely a funding issue?

In the middle of the 2011 North Dakota state legislative session, a state senator asked an assessment team member how much it would cost to fix rural EMS in North Dakota. The question is relevant but assumes the crisis is only about funding.[52]

Since 2008, the state has provided staffing grants to approximately 39 ambulance services each year. These grants are distributed based on ambulance service applications and a formula

[47] NDREMSIP interviews
[48] DEMST
[49] Conversation with legislators during 2011 legislative session
[50] NDREMSIP conversation
[51] DEMST
[52] Conversation with legislators during 2011 legislative session

designed to identify services with the greatest need. Grants to ambulance services have been as large as $45,000 a year.[53]

How services have used the staffing grants varied. Some of the uses include:

- Paying service members a stipend for being on the call schedule and available for calls and/or for a fixed or hourly amount when actually on an ambulance response and transport.
- Paying wages to personnel to staff hard-to-cover times of the day.
- Funding a permanent paid manager or leader for the ambulance service or hiring other support staff.
- Hiring per diem personnel from another service or staffing agency to staff hard-to-cover times of the day.
- Dividing the staffing grant among two or three active members within the service.

The success of the grants is mixed. Some services report that offering financial incentives has helped engage more workers and fill schedules (even if the incentives are small). Others have reported that starting to pay for labor has created expectations for pay and become a disincentive for people to donate time. One ambulance service that used the staffing grant to pay wages for its most hard-to-cover times of the day and week reported that staff members who were not paid wages had become reluctant to take long transfers. An ambulance service that used the grant to pay for leadership found that paying a leader improved recruitment and retention and allowed the service to begin operating as a business. Some services reported that without the staffing grants, they would have ceased operations.

Staffing grants may be more Band-Aid than cure. For many communities and services, funding alone cannot solve challenges such as declining populations, poor leadership, an unattractive organizational culture, conflict between members, low call volume and a shortage of workers willing to relocate. Several North Dakota communities that offer fully paid EMS positions struggle to attract workers.

## Why are easy solutions elusive?

No one single solution exists to the crisis facing rural EMS in North Dakota. Each service and community is unique, and there is no broad authority to introduce sweeping change. Rural EMS in North Dakota lacks many of the characteristics of a true interdependent system of care (a vision, planning, messaging, shared resources, recognized leadership and performance indicators). Public knowledge about *how* rural EMS is provided and paid for is fragmented, uneven and limited, and there is no unified messaging about EMS and its current challenges.

[53] DEMST

## Why is the local ambulance service leader/manager so important?

Because rural EMS originated and operates at the local ambulance service level, the local ambulance service leader is a critical stakeholder in this crisis. To address the crisis, local leaders need to know how to assess the condition of their ambulance service, inspire workers to stay on the job and be able to plan for the decline in volunteerism. They need to know how to assess the state of their ambulance service and tell appropriate stories to their communities and to the service members.

However, many lack the skills and preparation for the increasing complexity of the job. Many are chronically exhausted from plugging staffing holes and taking an excessive amount of calls (some more than 80 hours per week). In many services, the demands of the leadership role have moved far beyond the level of volunteer service. Many leaders tell of putting in full-time hours with no compensation.

Currently, local ambulance services leaders have little or no outside help or support in addressing this crisis. There are no specific resources a local leader can turn to for mentoring, consultation, advice and support in addressing issues of change. [54]

## Why are a few rural ambulance services doing well?

A few rural ambulance services in North Dakota are doing well (despite this crisis) in terms of attracting and keeping people, obtaining community support and creating sustainable organizations. Some of these services are in communities with declining populations. We found that these services:

1. ***Are led by engaged, trained, dedicated and rested leaders.*** The best volunteer ambulance services have clear and capable leaders. These individuals are respected by the volunteers and by people within the community. They are individuals others want to follow and who have a demonstrated ability to get things done. The leadership in these services does not rotate, and the leader has time to lead because he or she is not exhausted from taking too many call hours.

2. ***Maintain high professional standards.*** The rural volunteer ambulance services with the largest active rosters often have the highest member standards. They see members as professionals and expect them to meet high performance expectations. They select people carefully and have clear job descriptions, policies and procedures, and they demand that the members comply.

3. ***Create recruitment- and retention-friendly cultures.*** Successful volunteer ambulance services create a volunteering culture that is inviting, warm, fun and family-like. In these organizations, creating a respectful volunteering environment is a priority. Bad attitudes, ongoing interpersonal conflict and nonprofessional behaviors are not

[54] See Appendix B

tolerated. Ongoing and interesting training and education are priorities, and volunteers are recognized and rewarded in a manner that is meaningful to them.

4. ***Tell compelling stories.*** Every rural volunteer ambulance service tells a story about itself and the importance of rural EMS by what its leaders and members say, what they do, and the face the service shows to its community. But not all stories are equal. The best rural ambulance services tell compelling stories to their members and to their communities that garner loyalty and support. These stories are about the importance of the service, the sacrifice made by volunteers, and the changing needs of rural EMS. These stories are backed by statistics and the knowledge of what is important. The best rural ambulance services understand that they can control the stories they tell and do not leave storytelling to chance.

5. ***Use a call schedule.*** Using an "all-call" system, where there is a no-call schedule and specific individuals are not designated to be on call, is not reliable, does not distribute call time responsibly, and does not distribute call opportunity fairly. While many services have operated with an "all-call" system in the past, the difficulty in attracting and keeping volunteers today makes this an unreliable means of ensuring that 100 percent of all calls will be answered promptly. An "all-call" system adds stress to volunteering when there are few active volunteers. North Dakota regulations now require that services maintain a call schedule. [55]

6. ***Practice safe and humane scheduling.*** Regardless of how few or how many calls a service responds to, being "on call" is stressful and activity limiting. There is always the potential for back-to-back calls. Adequate rest, sleep and time off are essential to patient, provider and public safety. In most circumstances, these services do not have volunteers on call for more than 80 hours in any given week. If a service has multiple calls in a 24-hour period, volunteers are not left on call if they have not had adequate sleep. Particular attention is paid to long transfers and providing relief when volunteers have made a long transfer.

7. ***Procure adequate funding for the service.*** The best-run rural volunteer ambulance services have adequate funding for facilities, training, equipment, vehicles, insurances, administrative costs, medical direction and rewards. They know their costs and revenues, and they plan and follow a budget. When seeking money from local sources, they have a compelling story to tell about their needs. We have observed that when volunteer services do not have adequate funding, it increases the stress of volunteering and decreases the service's appeal as a place to volunteer.

8. ***Maintain facilities, vehicles and equipment.*** Volunteer participation and pride are tied to having appealing facilities, vehicles and equipment. In the best-run rural volunteer services, facilities are clean and inviting. They provide adequate space for housing

[55] North Dakota EMS Rules, Chapter 33-11-01.2

vehicles and storing equipment; suitable space for training; comfortable and relaxing crew quarters; and administrative office space. Vehicles are adequate for the job, maintained and rarely break down. The medical and rescue equipment is up to date, maintained and a source of volunteer pride.

## Are there advantages to regional approaches to rural EMS?

The future of rural volunteer EMS in North Dakota remains uncertain. However, it is becoming increasingly clear that the old, exclusively independent volunteer approach will not continue to exist in the same form. Across the nation, the rural areas most successful in adapting to change are those that work together to create systems of care supported by a regional approach to marshaling, deploying and funding resources.[56] When ambulance services and first responders work together, not only do they create a more reliable system of patient care, but they find efficiencies in:

- staffing;
- management and leadership;
- funding;
- medical direction;
- higher levels of response; and
- transfers.

While the benefits of rural ambulance services working together to gain efficiencies are easy to grasp, the challenge is in convincing ambulance service leaders, EMS providers and communities that such an effort does not necessarily mean the loss of local services or local control.

North Dakota rural communities have a long history of self-sufficiency. This inhibits them from naturally working with other services or asking for help. When asked to participate in a meeting to discuss rural EMS challenges, the leader of an ambulance service replied, “No thanks. We do for ourselves.”[57]

In many communities, this self-sufficiency has been translated into a deep pride and local identity of which residents are fiercely protective. Residents believe that in working too closely with other communities, they will lose a part of their community’s unique identity and, thus, lose a sense of their own local self-sufficiency. While many rural volunteer ambulance services and QRUs in North Dakota struggle to staff their services 24/7, some still resist working with other services to find solutions. This resistance is rooted in the following fears, beliefs and attitudes:

- Working together is the first step toward losing local services.

[56] See NDREMSIP report: *A Report or Urban and Rural EMS Cooperation and Collaboration in Cass County, North Dakota, 2011*

[57] NDREMSIP telephone conversation

- Working with other services will reveal local weaknesses.
- Another EMS organization in a neighboring community is on a mission to take over.
- A neighboring service cannot be trusted because of an old or current inter-community rivalry.
- Working together will eventually lead to a loss of local control and the ability to meet local needs.

We have found there are dramatic and powerful advantages to a group of ambulance services in a region meeting with each other and working together to create a true system of care. Here are some of the advantages of a systems approach:

- Patients receive more consistent and uniform levels of clinical care, and providers know what to expect from each other;
- Resources can be shared across the system to promote system strength;
- EMS will be better integrated into a larger healthcare system;
- Interagency cooperation strengthens mission capability;
- Interagency competition is limited;
- Problems and challenges have a forum, and any local QRU or ambulance service's individual challenge becomes a regional challenge;
- A group of involved leaders are continually assessing the system performance and working toward improvement; and
- There is a ready-made group with experience in working together ready to collectively address emerging challenges.

## Addressing the Crisis

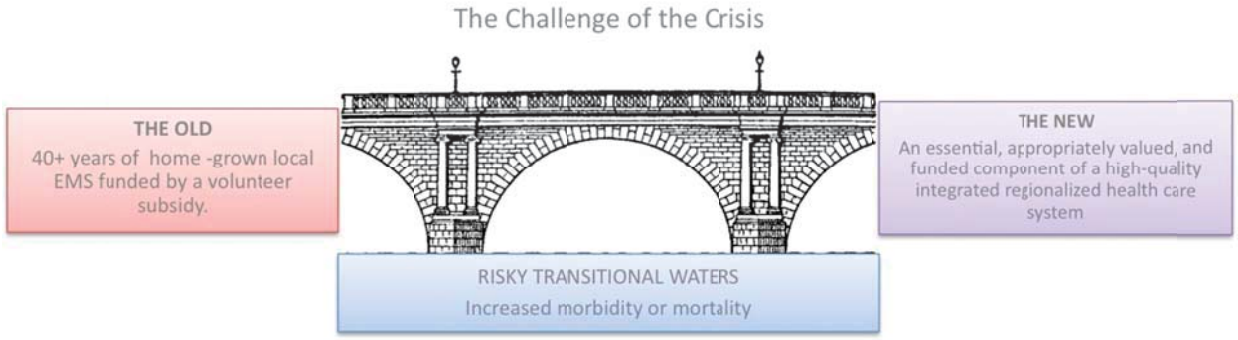
While there are dangers in this crisis, the crisis itself presents an opportunity to strengthen rural EMS in North Dakota and bring new and needed attention to EMS as a vital community service and an essential component of rural healthcare.

A successful rural EMS system in North Dakota will likely include:

- Regional collaboration and regional response systems;
- Increased use of QRUs and other first responders;
- Fewer ambulance services that are appropriately staffed and reliably provide appropriate levels of care;
- Prepared and paid leadership;
- Regional consultants to assist local services in leadership, management, facilitating relationships with other services and dealing with change (See Appendix B);
- Complex funding systems that receive significant funds from local sources but also utilize other funding sources;
- More paid staff and more recognition of the value of donated labor;
- State and regional approaches to workforce development;
- Regularly measured performance expectations;

- More regionalized resources such as leadership education and medical direction; and
- Integration into other areas of community service such as public health and public safety.

The major challenge will be one of safely navigating across the transitional waters between the 40-year-old home-grown collection of independent services to a new regionalized system of EMS without an increase in morbidity and mortality. When change is planned and orchestrated, dangers can be limited.




Movement from the old to the new is already taking place. Many local leaders are beginning to step across the bridge through leadership education that highlights the importance of their role in addressing this crisis and prepares them to lead. Through a strategic visioning process, key stakeholders are now beginning to promote a unified story about the future of EMS in North Dakota. The new EMS Advisory Council is poised to ensure that financial resources not only address immediate needs but also prepare for the future. Collaborative and regional approaches to EMS in such places as Cass County, Pembina County and Renville County are demonstrating the value of working together. The DEMST leadership is taking a proactive stance toward addressing the crisis. Leadership at the NDEMSA is working with the DEMST and continuing to explore new ways to represent and advocate for rural EMS.

## Recommendations

We believe this emerging crisis demands a multifaceted approach. This approach should include:

- *Recognizing that the roots and future of rural EMS in North Dakota are local.* Today, the important decisions about rural EMS in terms of who provides it, how it is provided and the quantity and level of care are all made locally. Each area or region of the state has unique needs and resources, and no single solution fits all services or areas.

- *Developing the capacity of local ambulance service leaders*. The local ambulance service leader is one of the most important roles in North Dakota rural EMS. Investing in the development of local leadership helps local services develop the capacity to address

their unique challenges locally. The best-run rural ambulance services in North Dakota have stable, prepared, respected, and proactive leadership.

- *Facilitating collaboration between ambulance services.* Many services will not be self-sustaining and will need to develop regional approaches to leadership, education, resource deployment, staffing, funding and medical direction. Some of best efforts in addressing this crisis in North Dakota involve collaboration and regional approaches.

- *Telling a simple collective story about rural EMS*. To obtain the appropriate attention and support, rural EMS in North Dakota will need to tell a collective story about this crisis, the real cost of operating ambulance services and the emerging financial and workforce needs. This story will need to be told repeatedly to EMS providers, taxpayers, voters and municipal, township, county and state government in the coming years.

- *Ongoing EMS workforce planning and development*. To ensure that rural EMS has enough human resources in coming years, the practice of workforce planning and development will need to be promoted and led at a state level.

- *Measuring simple, practical and meaningful indicators of system performance.* To ensure the performance of rural EMS continues to be strong through this change and into the future, measurement and monitoring of such things as response reliability, chute times, the numbers of active rural EMS workers, and the delivery of appropriate clinical care should occur at local, regional and state levels.

- *Connecting rural EMS with healthcare and public safety*. EMS straddles healthcare and public safety and has the ability to function in both arenas. Rural EMS must continue to explore how it might broaden its services and employ its personnel by exploring cross-training possibilities in roles such as community paramedic.

Therefore, we specifically recommend that EMS in North Dakota utilize the current crisis to catalyze a new era of rural EMS centered on promoting and investing in:

- Local EMS leadership development and support;
- Increased collaboration and regionalization of ambulance and first-responder services, PSAPs, hospitals and local governments to create a true system of care that is appropriately funded;
- The promulgation of a uniform story about rural EMS;
- The practice of workforce planning, promotion and development; and
- Simple, practical and meaningful system performance measurement.

Each of these are described below with specific recommendations for each.

## Invest in Leadership Development

Developing local ambulance service leadership is the best investment in addressing and mitigating change in rural EMS. Local ambulance leaders are the messengers and agents of change. Specifically, North Dakota should:

- Create or adopt a formal recognized leader/manager training and certification process.
- Fund local ambulance service leader/manager education and training.
- Subsidize wages through grants for rural ambulance leadership positions.
- Incentivize leader/manager certification by tying eligibility for state funding to leader/manager certification.
- Create and fund ongoing leader education, networking and support that encourages a systems-of-care approach.
- Provide local leadership support through regional EMS consultants (see Appendix B)

## Promote Increased Collaboration and Regional Planning

The strength of rural EMS depends on whether or not it operates as a system. Yet local ambulance services and QRUs cannot successfully be forced to work together. Not all ambulance services will survive this crisis, and how safely services close, consolidate or reform will depend on how well they work with neighboring services.

- Incentivize ambulance and first-responder services to work together by rewarding the development of regional approaches, regional EMS councils and regional planning.
- Facilitate regional development support through the use of regional consultants who build and maintain relationships with local services.
- Showcase successful models of collaboration and regionalization.
- Conduct workshops on developing a systems approach, overcoming distrust, and the advantages of a regionalized approach to working together.
- Develop expert capability to help in the facilitation of collaboration, merging, transitioning (to paid services or QRUs) or closing by developing and funding regional consultants with this expertise.
- Develop expert capabilities to assist local services in developing local funding mechanisms, such as taxing districts, mill levy and general fund monies.
- Modify the substation model language and requirements to ensure it allows reluctant services to test working together without the perception of undue surrender.
- Provide financial incentives for services with active rosters of less than 10 to enter into collaborative agreements with other services.
- Develop and promote workshops on strengthening local EMS funding
- Make PSAPs a part of the EMS system through education, rules and data gathering.

## Encourage the Promulgation of a Unified Story about Rural EMS

Motivation toward positive change is accomplished by telling compelling stories. Fragmented and competing stories about rural EMS will leave the public, government representatives and EMS workers confused and uninspired to support change.

- Answer the question of "who is responsible for providing and funding EMS in North Dakota?"
- Create (through the North Dakota EMS Advisory Council [NDEMSAC], the DEMST, the NDEMSA and other key EMS stakeholders) a brief unified written story that answers the above question and plainly explains rural EMS, its challenges, emerging changes and solutions.
- Create and fund a series of workshops to ensure all ambulance service leaders/managers understand the story.
- Mount a five-year collaborative campaign between the NDEMSAC, the NDEMSA, the DEMST and the North Dakota Association of Counties (NDACO) to ensure there is broad understanding of the message by public, providers, politicians, public safety and healthcare.
- Utilize media, town hall meetings, the DEMST, the state health officer, the NDEMSA, regional consultants, and local leadership training to distribute messages.
- Introduce legislation to clarify who or whom and which level of government is ultimately responsible for the provision and funding of EMS.
- Develop relationships between the DEMST, the NDEMSA and the ND 911 Association to raise awareness of EMS, the current changes, and the importance of the PSAP in the provision and evaluation of EMS.

### Practice Workforce Planning, Development and Promotion

One of the greatest challenges ahead for rural EMS in North Dakota is one of developing a reliable supply of workers to meet the growing demand. As donated labor disappears, the need for EMS workers will continue to grow. Meeting this demand will require forethought, planning and creativity.

- Create a simple workforce plan that builds off the current staffing grant to ensure that short-term staffing options for services mitigates the crisis but also promotes steps to increase the supply of willing and able workers.
- Make EMS workforce development a statewide priority by funding and conducting a biannual statewide EMS workforce summit that explores best practices, challenges and opportunities.
- Promote appropriate EMS worker wages through the story and messaging discussed above.
- Promote the creation (and possible subsidization) of a statewide EMS staffing corps to provide relief for services in crisis.
- Explore shared staffing options/agreements between low- and high-volume services throughout the state to provide appealing employment options and experience.
- Explore the creation of a community paramedic[58] program that meets gaps in local healthcare, public health and dental needs — supported with appropriate legislation and funding.

[58] The Community Paramedic model uses EMS personnel to provide primary care and preventative services health care services. See Appendix C.

### Identify and Measure Simple and Practical Performance Indicators

Ensuring the public and EMS patients are appropriately served demands simple measurements of system performance. These measurements should address issues of response reliability, the time it takes to respond to a call for help, clinical performance and clinical outcomes.

- Identify basic meaningful EMS system performance measures connected to what is meaningful for patients, providers, services, funders and receiving facilities.
- Modify existing data collection systems to support identified performance measures.
- Provide frequent and meaningful reports.
- Develop relationships with PSAPs to collect uniform and verifiable response reliability and response time data.
- Utilize regional consultants to continue to develop local quality practices.

## Guiding the Change in North Dakota EMS

The DEMST, the NDEMSAC and the NDEMSA are uniquely positioned to play significant roles in addressing these recommendations and guiding the emerging changes in rural EMS.

- As the need for change in rural EMS continues to grow, the missions of the DEMST, the NDEMSAC and the NDEMSA should reflect a commitment to helping safely assist and guide change.
- In addition to its role of licensing and regulating EMS and protecting the public, the DEMST should play a leadership role in tracking this crisis, providing information to services and communities about change and continuing to seek ways to help services change and adapt.
- Just as the DEMST plays a guiding and supporting role to the state's trauma system, it should also play a guiding and supporting role in an emerging statewide EMS system with staff and resources.
- As the NDEMSAC and the DEMST create plans to distribute state funds to ambulance services in need, they should ensure that funds are used to create a reliable and sustainable EMS system, as well as meet crisis needs.
- The NDEMSA should position itself to assist in this change by supporting its membership with information, education, and technical advice, as well as helping to develop and distribute appropriate stories about the future of rural EMS.

## Appendix A: Summary of project activity

As the NDREMSIP unfolded, SafeTech Solutions, LLP, along with the DEMST, sought to match activity and deliverables with the practical needs of rural EMS in North Dakota. As certain aspects of the original proposal became impractical or mismatched to the real needs of EMS across the state, it became necessary to add, change and delete activities. Project activities included:

- Assessing rural EMS challenges statewide, including a report describing the current state of EMS in North Dakota, a description of challenges, and specific recommendations for addressing challenges. The assessment included an analysis of available quantitative data, a survey of all ambulance services, and an interpretation of qualitative data. Surveys were sent to all ambulance services in North Dakota and 80 surveys were returned. All ambulance services were contacted by mail and telephone to solicit participation, and more than 100 conversations were conducted with EMS stakeholders around the state.

- Hosting and facilitating eight ambulance service leadership summits throughout the state to assess challenges, encourage more cooperation and collaboration, and focus leadership and recruitment education and training. More than 75 leaders and 63 ambulance services participated in the summits.

- Hosting and facilitating five, two-day leadership and recruitment education and training sessions presenting Level I of the EMS Leadership Academy. Participant travel, lodging and meals were provided by the project. Eighty-four ambulance service leaders from 54 ambulance services participated in Level I trainings.

- Piloting and introducing the Regional EMS Consultant concept to North Dakota in which regional consultants provide support and help to local ambulance services.

- Selecting three regional EMS consultants to work with local ambulance services in addressing issues of leadership, information, quality and regional collaboration.

- Preparing regional EMS consultants through two boot-camp sessions with a focus on quality and rural challenges. Regional consultants sought to contact every ambulance service in the state offering information and assistance.

- Hosting and facilitating a two-day leadership education and training session presenting Level II of the EMS Leadership Academy. Twenty-three ambulance service leaders from 16 ambulance services participated.

- Conducting recruitment workshops at the North Dakota EMS Association's four regional conferences. More than 300 EMS personnel were addressed during these sessions.

- Coordinating and hosting for five leadership Webinars to support local ambulance service leaders. These sessions were conducted following completion of Level I of the leadership training and provided follow up on the application of leadership training.

- Presenting data and its connection to service quality at the North Dakota EMS Association's (NDEMSA) annual conference.

- Planning and facilitating an eight-hour recruitment and retention workshop at NDEMSA's annual conference with a special focus on recruiting today's young people.

- Meeting with EMS medical directors to discuss challenges, involvement, medical director education, and the potential for more regional approaches to EMS medical direction in North Dakota.

- Creating and developing a North Dakota specific guidebook for rural EMS medical direction. Distribution of guidebook to all medical directors in North Dakota.

- Facilitating the introduction of the EMS medical director's guidebook at the annual meeting of NDEMSA's Medical Director Society.

- Purchasing and distributing the National Association of EMS Physicians' textbooks — *Clinical Aspects of Prehospital Medicine, Vol. I* and *Medical Oversight*, Vol. II — to all North Dakota EMS medical directors.

- Focusing an assessment of EMS in Pembina County and a report describing the current state of EMS in Pembina County, a description of challenges, and specific recommendations for moving forward.

- Reporting on the urban EMS and rural EMS overlap in the Fargo/Cass County area describing the opportunities and challenges of a paid urban ambulance service investing in the survival and success of neighboring rural volunteer ambulance and first responder services.

- Assessing and reporting on the impact of oil drilling and production on out-of-hospital emergency medical service in the North Dakota counties of Dunn, Williams, Mountrail and McKenzie.

- Hosting, planning and facilitating three, two-day strategic EMS visioning gatherings. The project provided meeting space and participant lodging, meals and travel reimbursement.

- Creating and distributing a tool to help rural volunteer ambulance services self-assess their current state and sustainability.

- Creating and distributing a rural EMS manager's survival guide addressing the basic elements needed for a rural ambulance service to survive today's challenges.

- Offering the project team to assist local ambulance services in addressing challenges such as reliability, working with other services, and addressing issues of declining volunteerism. This resulted in numerous phone calls, meetings and site visits across the state.

- Introducing a basic EMS quality kit to rural ambulance services with a model quality checklist. Distribution and support for this basic quality effort through regional consultants.

- Providing financial support and advice for the creation and distribution of a public service announcement geared toward recruiting 17- to 25-year-olds for volunteer EMS and fire positions by the Staffing for Adequate Fire and Emergency Response Grant. More than 600 showings of this PSA will take place in the fall of 2011.

- Conducting numerous meetings with the DEMST and representatives of other key EMS stakeholder groups in North Dakota.

## Appendix B: Summary of regional consultant concept

An important element of the NDREMSIP was piloting the use of regional EMS consultants to support and assist local ambulance services and QRUs.

Because rural EMS is primarily provided through the local EMS agency and because the quality of services provided by the local EMS agency may benefit from outside assistance that is knowledgeable, skilled and non-threatening, NDREMSIP sought to create a practical regional resource for local EMS agencies. We called these resources Regional EMS Consultants (a term and concept utilized in other rural areas of the United States).

Regional EMS Consultants serve as local resources and supports to EMS agency administrators, directors, managers, educators, and medical directors. Regional consultants also assist community leaders with EMS system issues. Consultant activity may be in the form of:

- Serving as resources for local agency leadership and management in addressing local challenges and issues.
- Developing, implementing, and monitoring continuous organizational performance improvement plans.
- Promoting an atmosphere that produces excellent out-of-hospital care.
- Ensuring that EMS personnel have the support, medical direction, tools, and feedback needed to perform emergency care well.
- Evaluating EMS systems using questions to ensure protocols, policies, and procedures are effective.
- Disseminating reliable information sources about best practices, opportunities, change and regulations.
- Facilitating cooperation and collaboration between EMS agencies and at times mediating when invited.

To develop this resource, project leaders careful sought individuals for the role who were:

- experienced in EMS;
- knowledgeable about EMS Leadership, management and systems;
- skilled in the practical application of quality principles;
- skilled in working with people;
- able to manage controversy and conflict without drama;
- residents of the region; and
- respected in the EMS community and who did not have historical baggage that would impede their ability to be widely accepted.

The positions were advertised and three candidates were selected based on the above criteria

to serve three regions. All of the consultants worked in EMS in North Dakota and were known to be positive leaders in their regions and agencies. The consultants were:

- Lynn Hartman (serving western North Dakota);
- Jim DeMell (serving northeast North Dakota); and
- Mona Thompson (serving southeast North Dakota).

Consultants were prepared for the role through two weekend-long boot camp sessions facilitated by the project team. Once prepared for the role, the regional EMS consultants contacted all of the ambulance services in their region, explained their role, listened to concerns and began providing assistance where needed. Consultants were charged with seeking to understand the needs of local agencies and leaders, building relationships with local agencies and leaders and respecting any agency's desire not to utilize their services. They were specifically instructed not to be intrusive or demanding but to work toward building trust. Consultants worked as contractors with SafeTech Solutions, LLP, and did not represent the DEMST, nor did they hold any regulatory authority or function.

Over the course of the project, regional EMS consultants each worked approximately 40 hours per month and engaged in the following activities:

- Instructing local services on the use of the use of basic quality principles and assisted local services in setting up basic quality measures;
- Assisting local services in understanding and applying the project's rural EMS quality kit;
- Assisting local leaders in managing local personal and staffing issues;
- Informing local agencies about opportunities for funding and education;
- Encouraging local leaders to participate in leadership development classes;
- Assisting local agencies in completing grant applications;
- Facilitating meetings between neighboring ambulance services where there had been historic and/or current conflict;
- Aiding local ambulance services in developing appropriate stories to tell to local government and policy makers;
- Organizing regional meetings between ambulance services and QRUs to discuss regional planning, staffing issues and collaboration;
- Assisting local agency leaders in learning about regulations without threat; and
- Organizing local educational programs to meet local needs.

Consultants reported that many agencies and leaders appreciated having a resource to which they could turn. Over the course of the 10 months that consultants worked in their regions, they made significant gains in establishing contact with local services and assisting services. Some of the most significant accomplishments of the consultants were:

- Conveying to local EMS agency leaders that they were not alone in facing challenges and that listening, responsive and practical help is available;

- Facilitating dialogue and movements toward collaboration between ambulance services that had not previously worked together;
- Bringing together groups of ambulance service leaders in their region to discuss challenges, opportunities, plans and best practices;
- Creating a safe opportunity for local agencies to reveal challenges, fears and failures in an environment that was not threatening or punitive; and
- Beginning to identify ways to connect local independent agencies into regional systems that recognize the identity and value of each agency's local roots.

Because local EMS agencies have historically worked independently, more time was needed for consultants to establish trust, learn about local issues and provide the specific assistance the local agencies needed.

As the crisis in rural EMS in North Dakota continues and the role of leading the local agency demands more preparation, knowledge, skill and time, the need for reliable outside resources grows. Embracing and leading change is a tall order for a local EMS leader. In the coming years, as local agencies seek to replace the volunteer subsidy and work with neighboring agencies, it is likely they will need a variety of resources and help along the way.

We recommend that North Dakota seek ways to continue providing regional support and assistance to local EMS agencies. The crisis facing rural EMS in North Dakota suggests that the need for regional assistance and help provided by the regional EMS consultants will not only continue but will increase.

## Appendix C: Community Paramedic

As North Dakota seeks to replace the volunteer subsidy in areas where rural EMS agencies do not transport enough patients to cover the expense of full-time EMS staffing, it may want to consider innovative ways to utilize EMS worker resources in other areas, such as public health, dental care, public safety and other community services. A concept gaining international attention is that of community paramedic. This appendix seeks to provide a brief overview of this concept.[59]

The community paramedic is a concept that seeks to expand the role of EMS personnel to meet local needs. In many rural areas, health care needs outnumber health care options. Rural communities often include a disproportionate number of elderly citizens, immigrants, impoverished families and those in poor health. Often, rural residents must travel great distances—incurring great expenses—to receive even the most basic care. Or worse, they receive no care at all. The community paramedic concept seeks to close the gap between available resources and need, and adapt to the unique needs and resources of the communities served.

Through a standardized curriculum, accredited colleges and universities train EMS personnel to become community paramedics, enabling them to serve communities more broadly in the areas of:

- Primary care
- Public health
- Disease management
- Prevention and wellness
- Mental health
- Dental care

Community paramedics do not replace current healthcare systems like home health care or primary care physicians. Instead, they become an extension of the primary care provider to provide care to patients without access.

For example, upon the referral of a physician, a community paramedic (under the oversight of a physician) may provide services in a patient's home including: hospital discharge follow-up, fall prevention, blood draws, medication reconciliation or wound care. The community paramedic would communicate back to the referring physician to ensure quality of care and appropriate oversight. Community paramedics may also work with Public Health to provide preventative services throughout the community. Their skills may also be developed to bridge gaps in mental health or dental care.

[59] Information for this section was provided by Gary Wingrove, a developer and leader of the community paramedic concept.

Currently, community paramedics are functioning in Pennsylvania, Minnesota, Colorado, Texas and Nova Scotia.

A specific curriculum for community paramedics has been developed by a consortium of universities from Nebraska, Minnesota, Nova Scotia and Queensland. The curriculum is currently being revised from version 2 to version 3. A six state pilot of curriculum version 3 will be conducted in the fall of 2011. The curriculum is provided free of charge to any accredited college or university in the world, and has been distributed so far to more than 40 colleges in five countries and to the US military. All colleges with curriculum version 2 will receive version 3 when complete.

The community paramedic concept presents some challenges. Human resources to work with colleges, communities and ambulance services to implement the program are scarce. So far, the community paramedic concept has been managed with volunteer resources. There is need for a funded technical assistance center. Additionally, a reimbursement model needs to be structured. So far, only Minnesota has written community paramedics into the reimbursement system for Medicaid and medical homes. Medicare reimbursement requires action by Congress.

More information about community paramedicine is available on the website of the International Roundtable of Community Paramedicine at www.ircp.info, and more information about the community paramedic curriculum is available at www.communityparamedic.org.