



Gaps Analysis of Rural Ambulance Resources

OCTOBER 2022

Summary

The Rural Emergency Medical Services (EMS) Resource Center intends to serve rural ambulance services by identifying, evaluating, and communicating resources available in support of rural EMS sustainability efforts.

This gaps analysis was completed to:

1. Demonstrate the knowledge base available to support EMS sustainability.
2. Identify available resources for rural EMS services.
3. Summarize gaps or challenges to accessing or implementing resources; and
4. Support data gathering and strategic planning for future resources and sustainability efforts.

In 2016, the Rural EMS Sustainability Survey assessed rural ambulance service demographics, workforce, leadership, and operations in Minnesota. The results of this survey identified areas where partnering agencies, stakeholders, and policymakers may support rural EMS. To continue the path toward sustainability, the Minnesota Ambulance Association received a grant from the Minnesota Medicare Rural Hospital Flexibility (Flex) Program to create a gaps analysis of resources and supports available to EMS providers in Minnesota. This is a companion tool to the 2016 survey results, created to define and update the current EMS landscape. Information and results from the [2016 Rural EMS Sustainability Survey \(https://www.health.state.mn.us/facilities/ruralhealth/flex/docs/pdf/2016ems.pdf\)](https://www.health.state.mn.us/facilities/ruralhealth/flex/docs/pdf/2016ems.pdf) are available online.

We want to call special attention to Table 4, which is the summary of gaps noted through this assessment by topic area and includes the current state, desired future state, and gap identified. The Minnesota Ambulance Association and Rural Resource Center think it is important to note that there are many resources available to rural EMS services, however, the time to search for and access these resources is a luxury not afforded to all rural EMS service directors. Even if a service director is aware that a resource exists, they may not have the time or infrastructure necessary to review and determine which resource is best for their service, create a plan for implementation, and execute that plan. Above the creation of additional resources, there needs to be a focus on the practical implementation of the information contained within each resource.

1. Demonstrate the knowledge base available to support EMS sustainability.

Partners

The Resource Center relies on its partnerships with other organizations. Partners are foundational to the knowledge that exists in the EMS system and are especially critical to rural sustainability. Partnerships within the state of Minnesota include, but are not limited to:

- Minnesota Emergency Services Regulatory Board – Dylan Ferguson, Executive Director
- Rural EMS Regional Programs – regional directors listed in Table 2
- Minnesota Ambulance Association – Samantha Hilker, Executive Director
- Minnesota Office of Rural Health and Primary Care – Zora Radosevich, Director

It is important to note that all partners listed in this document received a draft and an opportunity to provide comments and corrections to the resources listed for their respective organizations in the table(s) below. This final document reflects input from the partners listed.

Table 1. Summary of partner knowledge and resources

Partners	Workforce: Recruitment & Retention	Workforce: Initial training and education	Workforce: Continuing education for EMS certification Maintenance	Professional Development & Leadership	Medical Direction	Community Awareness	Funding and/or fiscal support	Resource Development
Minnesota Emergency Medical Services Regulatory Board (EMSRB)	Cooper/Sams Volunteer Ambulance Award Program Analysis and Trends of the Minnesota EMS Workforce	Licensing and oversight of training institutions and certification testing	Oversight and documentation of required post licensure education	Rural Ambulance Service Assessment Project Technical support and leadership to educational programs and ambulance services via assigned EMS Specialist	Host agency of the Medical Direction Standing Advisory Committee Minnesota Medical Director Course Sample Patient Care Guidelines	Support in the facilitation of public meeting related to EMS service.	Regional EMS Program Grants EMS Education Reimbursement	Ambulance Service Licensure Manual and Education Program Manual which contain resources and templates for various policy development

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Partners	Workforce: Recruitment & Retention	Workforce: Initial training and education	Workforce: Continuing education for EMS certification Maintenance	Professional Development & Leadership	Medical Direction	Community Awareness	Funding and/or fiscal support	Resource Development
Rural EMS Regional Programs	(See Table 2 for detailed breakdown of each regional program)							
Minnesota Ambulance Association				EMS Leadership Course		Story placement in print and TV media, social media presence and advocacy efforts	While the association does not offer any direct financial support, their advocacy efforts support legislation that benefits EMS services across the state in many ways, including financial sustainability	Supports resource development through partnering and hosting grant activities.
Minnesota Office of Rural Health and Primary Care (ORHPC)							Supports state-wide and regional initiatives for rural EMS through grants.	Supports resource development with grants, technical assistance, and research support.

Regional EMS Programs

Each regional EMS program operates differently. They each offer their members support via trainings, guidance, conferences, continuing education, and resources. Each program is unique to their region and summarized in table 2. Information about each program was gathered in one-on-one interviews with the respective regional program director. The purpose of these interviews was to better understand the variety of programming between regions and foster collaboration or sharing, where there is interest.

Table 2. Summary of services offered by EMS regional programs

Regional Program	Workforce: Recruitment and Retention	Workforce: Initial training and education	Workforce: Staff development; post-licensure education for EMS certification	Leadership	Medical Direction	Community Relations	Funding and/or fiscal support	Resource Development
Greater Northwest EMS Tom Vanderwal, Director			Annual Conference Staff development operational and clinical training courses Simulation-based clinical training	EMS Leadership Workshop		Handouts for community outreach Community Education programs and support	Funding for service level training	
Arrowhead EMS Adam Shadiow, Director			Annual Conference Critical Incident Stress Management Team CPR Training equipment Annual Conference EMT Refresher training	Manager's Meetings		Annual Conference		
Central EMS Marion Larson, Director	Career day at local colleges	EMT Initial Training	Critical Incident Stress Management Team Simulation Training mannequin	Manager's Meetings		Procedures of care flipcharts Community Education programs and support Community presentations on EMS	EMS education scholarships	
West Central EMS Mark McCabe, Director			Critical Incident Stress Management Team	Manager's Meetings		Handouts for community	Funding for continuing ed and EMS	

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Regional Program	Workforce: Recruitment and Retention	Workforce: Initial training and education	Workforce: Staff development; post-licensure education for EMS certification	Leadership	Medical Direction	Community Relations	Funding and/or fiscal support	Resource Development
			Simulation Training mannequin	EMS Leadership Workshop		education events	Conference attendance Grants for equipment purchases	
South Central EMS Mark Griffith, Director	Scrubs Camp participation Regional recruitment and retention team		Critical Incident Stress Management Team Cross-credentialing of staff Simulation Training mannequin Scenarios for simulation training	Manager's Meetings COVID Huddle	Medical Director services	Emergency Care Flipcharts	EMR Training Subsidy EMS education scholarships	
Southwest EMS Ann Jenson, Director	Townhall meetings with communities and policymakers		Critical Incident Stress Management Team Staff development/continued operational and clinical training courses Scenario-based simulation training resources including Simulation Training mannequin.	Manager's Meetings	Medical Direction Consortium	Procedures of care flipcharts Community Education programs and support	EMS education subsidy Grants for equipment purchases	
Southeast EMS Don Hauge, Director		EMR Initial Training EMT Refresher Training	Critical Incident Stress Management Team Staff development/continued operational and clinical training courses Simulation Training mannequin	Quarterly Manager's Meetings	Medical Direction Consortium	Emergency Care Flipcharts	EMR Training Subsidy EMS education scholarships	

2. Available resources for rural EMS services.

There are many pre-existing resources created for rural EMS providers. These resources are collected and assessed for the type, impact, and relevancy to rural Minnesota. A non-exhaustive summary of available resources is provided here to demonstrate the breadth and variety of information available to rural providers.

Table 3. Summary of EMS-specific resources

RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
Workforce				
Rural EMS: Taking the next step <i>Report examining issues affecting rural ambulance services.</i> April 2022	Center for Rural Policy and Development	Report and Webinar	Workforce awareness	<u>Rural EMS: Taking the next step</u>
EMS Recruitment Guide <i>Collection of recruitment strategies.</i> June 2022	NAEMT	Guidebook	Workforce recruitment	<u>EMS Recruitment Guide</u>
EMS Workforce Retention Toolkit <i>Strategies and solutions to enhance the retention of volunteer and career EMS personnel.</i>	Virginia Department of Health	Toolkit	Recruitment and retention strategies	<u>EMS Workforce Retention Tool Kit - Keeping the Best</u>
Recruitment and Retention <i>Tools to attract new members to volunteer</i>	Minnesota Department of Health	Toolkit	Volunteer recruitment resources	<u>EMS Recruitment and Retention</u>
Rural Project ECHO® Series <i>Case-based learning and mentorship for rural EMS</i>	Florida Rural Health Association	ECHO® Series	Clinical and operational best practices	<u>Rural EMS Project ECHO</u>
Rural Emergency Responder Training <i>DHS certified online training</i>	Rural Domestic Preparedness Consortium	Online learning	Knowledge and skill building in emergency responses	<u>Rural Domestic Preparedness Consortium Training</u>
Remote/Distance/Virtual Simulation	National Association of EMS Educators	Webinar and resources	Virtual learning	<u>Webinar & Resources: Remote/Distance/Virtual Simulation</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
<i>Training and resources to support virtual staff trainings.</i>				
Guide to Building an Effective EMS Wellness and Resilience Program <i>Assistance for EMS agencies in developing programs to support staff wellness and resilience. 2019</i>	NAEMT	Guidebook	Employee wellness	<u>Guide to Building an Effective EMS Wellness and Resilience Program</u>
NAEMSE Webinar Series <i>Education themed webinars</i>	National Association of EMS Educators (NAEMSE)	Webinar series	Education department development	<u>National Association of EMS Educators [NAEMSE] - YouTube</u>
AAMC Simulation-Base Pediatric Resuscitation Curriculum for Prehospital Providers <i>Curriculum for didactic and simulation-based education November 2014</i>	Association of American Medical Colleges (AAMC)	Curriculum Toolkit	Simulation Training Aides	<u>Simulation-Based Pediatric Resuscitation Curriculum for Prehospital Providers</u>
CrewCare <i>Mobile app to support EMS worker mental health awareness</i>	CREWCARE	Mobile App	Employee wellness	<u>CrewCare</u>
Fatigue in EMS <i>Evidence-based guidelines, infographics, a guidebook, manuscripts, and videos to support the sleep health of staff.</i>	NASEMSO	Toolkit	Fatigue risk management guidelines	<u>Fatigue in EMS</u>
Leadership				
Rural EMS Assessments <i>Community level assessments led by EMS subject matter experts.</i>	EMSRB	In-person audit and assessment	Sustainability assessment, financial assessment	
Template for Emergency Medical Services Informed Community Self Determination (ICSD) <i>Standard template to guide community-level service delivery assessments.</i>	National Association of State EMS Officials	Assessment guide	Sustainability assessment program	<u>2020 Template for Informed Community Self-Determination</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
Attributes of a Successful Rural Ambulance Service <i>Mechanism to assess the capacity of ambulance services.</i>	Wisconsin Office of Rural Health	Assessment tool	Tool to assess the capacity of Ambulance Services	<u>Attributes of a Successful Rural Ambulance Service</u>
Volunteer Ambulance Service Sustainability: A Self-Assessment Tool <i>Essential elements necessary for sustainability. June 2011</i>	North Dakota Department of Health	Assessment tool	Service-level sustainability assessment	<u>Volunteer Ambulance Service Sustainability: A Self-Assessment Tool</u>
Rural Community Ambulance Agency Transformation Toolkit <i>Resources to help ambulance leaders in rural America assess the state of their agency's readiness. 2019</i>	National Rural Health Resource Center	Toolkit	Assessment & resources to assist in the move from volume to value	<u>Rural Community Ambulance Agency Transformation Toolkit</u>
EMS in Crisis: How Do We Keep Things Going? <i>Tool Kit for the purpose of establishing a step-by-step process for an EMS agency that is having difficulty being able to respond to 9-1-1 calls. 2021</i>	Wisconsin Office of Rural Health	Toolkit	Sustainability guidance	<u>Volunteer Ambulance Tool-Kit</u>
Engaging Communities to Preserve Access to Emergency Medical Services in Rural Maine <i>A focus on rural EMS issues, and how Informed Community Self-Determination (ICSD) might be implemented to address them. October 2020</i>	Main Rural Health Action Network	Whitepaper	Sustainability strategies and resources	<u>Engaging Communities to Preserve Access to Emergency Medical Services in Rural Maine</u>
Rural Emergency Medical Services Integration Guide <i>Guide for ambulance services to use in their pursuit of sustaining effective and efficient delivery of</i>	National Rural Health Resource Center	Guidebook	Health care integration of EMS	<u>Rural Emergency Medical Services Integration Guide</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
<i>patient care and developing into an integrated system with other agencies.</i> November 2019				
EMS Agency Management Series: EMS Strategic Planning <i>Overview of strategic planning fundamentals.</i> June 2001	Virginia Office of EMS	Guidebook	Strategic planning	<u>EMS Strategic Planning</u>
Moving from Loaded Miles to Value-Based Models: Flex Program Support for Rural Emergency Care <i>Key strategies for rural ambulance services and hospital leaders to deploy when engaging collaboratively in transition to value-based payment and care delivery models.</i> August 2019	National Rural Health Resource Center	Information		<u>Moving from Loaded Miles to Value-Based Models: Flex Program Support for Rural Emergency Care</u>
EMS Leadership Course <i>Online resources to build leadership competency, excellence and personal wellness.</i>	Minnesota Ambulance Association	Online learning modules	Leadership development topics	<u>MAA ACADEMY</u>
Rural EMS Leadership <i>Conversation on leadership from industry experts.</i> June 2021	Minnesota Ambulance Association	Podcast	Leadership development	<u>Rural EMS Leadership</u>
DOH Rural EMS Leadership Development Course <i>Guidance on Operational and quality initiatives of EMS providers.</i>	Suwannee River AHEC	Online learning	Leadership development	<u>DOH Rural Leadership Development</u>
Leadership Fundamentals Video Series: Surviving and Thriving as a New Leader <i>Designed to help new rural health leaders navigate the ups and</i>	National Rural Health Resource Center	Video Series	Leadership development	<u>Leadership Fundamentals Video Series: Surviving and Thriving as a New Leader</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
<i>downs of transitioning to a supervisor or manager role. 2022</i>				
Leadership Videos <i>Conversation with leadership experts focused on developing strong leaders.</i>	SafeTech Solutions, LLP	Videos	Leadership development	Videos SafeTech Solutions, LLP
EMS Toolkit <i>Set of resources for rural EMS organizations to address common issues such as staffing and funding.</i>	Minnesota Department of Health	Toolkit	Resources for rural EMS leadership	EMS Toolkit
Sustainable Rural EMS: Navigating Change <i>Designed to assist rural communities in navigating a change from unsustainable volunteer EMS and to those that are sustainable. November 2021</i>	National Rural Health Resource Center	Guidebook	Strategic Planning	Sustainable Rural EMS: Navigating Change Guide
Managing from the Middle: Leading Through Change <i>Best practices to prepare mid-level managers to lead through this time of significant change in the health care environment.</i>	National Rural Health Resource Center	Podcast series	Leadership development	Managing from the Middle: Leading Through Change
Community Paramedicine Impact Reference Guide <i>A resource for those intending to research, plan, implement, evaluate, or otherwise consider community paramedicine (CP) systems June 2021</i>	National Rural Health Resource Center	Information	Cited references for CP program developers and administrators	Community Paramedicine Impact Reference Guide
Florida Mobile Integrated Healthcare Community Paramedicine Program Guidebook	Florida Department of Health	Guidebook	Guide for the successful launch of a Community Paramedic program	Florida Mobile Integrated Healthcare Community Paramedicine Program Guidebook

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
<i>A guide to assist with researching, analyzing, planning, developing, and launching a CP program. January 2020</i>				
Rural Community Paramedicine Toolkit <i>Compilation of emerging practices and resources to support rural communities seeking to build CP programs.</i>	RHIhub	Toolkit	Strategies and guidance for developing community paramedic programs	<u>Rural Community Paramedicine Toolkit</u>
Mobile Integrated Health – Community Paramedicine Program Toolkit <i>Created to help EMS agencies develop and operate a CP program.</i>	NAEMT	Toolkit	Community Paramedicine program development	<u>MIH-CP Program Toolkit</u>
EMS Webinars <i>Information from industry leaders on rural EMS management and leadership topics.</i>	Michigan Center for Rural Health	Webinar series	Operational, financial, and clinical continuing education for rural EMS	<u>EMS Webinars</u>
EMS World Podcasts <i>Interviews with EMS thought leaders and innovators, and the latest in patient care.</i>	EMSWorld	Podcast series	Operational, financial, and clinical information	<u>EMS World Podcasts</u>
Inside EMS Podcast Series <i>Conversations on EMS operational and clinical topics.</i>	EMS1	Podcast series	Operational, financial, and clinical information	<u>Inside EMS Podcast Series</u>
Rural EMS Counts <i>Presentations on EMS topics.</i>	North Dakota EMS Association	Webinar series	Operational, financial, and clinical information	<u>ND EMS Association - Townhalls</u>
EMS Agenda 2050 <i>A new vision for the future that provides a framework for the next thirty years of EMS system advancement.</i>	EMS.gov	Information	Resources and information for EMS transformation	<u>Office of EMS: EMS Agenda 2050</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
<p>EMS Focus</p> <p><i>Information for the EMS community on the unique opportunities that exist and to learn more about Federal EMS efforts and programs.</i></p>	EMS.gov	Webinar series	Address issues and updates on EMS topics	<u>Office of EMS: EMS Focus</u>
Medical Direction				
<p>Minnesota Medical Direction Course & Communication Pathway</p> <p><i>Course designed to prepare a Medical Director in Minnesota.</i></p>	EMSRB	Training Module	Introductory course for new EMS Medical Directors	<u>Minnesota Medical Directors Course</u>
<p>Handbook for EMS Medical Directors</p> <p><i>A baseline overview of key roles and responsibilities to assist current and prospective medical directors in performing their important missions. March 2012</i></p>	FEMA	Guidebook	Fundamentals of an EMS Medical Director	<u>Handbook for EMS Medical Directors</u>
<p>EMS Medical Director Contracts Evaluation Toolkit</p> <p><i>To provide the physician with a basic foundation to “ask the right questions” when considering a new or existing relationship with an EMS agency in the role of Medical Director.</i></p>	American College of Emergency Physicians	Toolkit	Medical Director recruitment	<u>EMS Medical Director Contracts Evaluation Toolkit</u>
<p>National Model EMS Clinical Guidelines</p> <p><i>Model EMS protocols</i></p>	National Association of State EMS Officials	Clinical Guideline Model	EMS Clinical Care Guidelines	<u>National Model EMS Clinical Guidelines</u>
<p>Paramedic Protocol Provider App</p> <p><i>Sample protocols from services across the country</i></p>	Acid Remap LLC	Mobile App	Sample protocols	<u>Paramedic Protocol Provider®</u>
<p>National EMS Quality Measure Set</p> <p><i>Measures developed to support EMS QI initiatives.</i></p>	National EMS Quality Alliance	Toolkit	Clinical and operational quality measures	<u>National EMS Quality Measure Set</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
Rural EMS Quality Improvement Course <i>Training on why and how to develop an EMS QI program.</i>	Suwannee River AHEC	Online learning	Quality Improvement program development and enhancement	Online Rural EMS Quality Improvement Course
Quality Improvement Basics <i>Designed to equip professionals with the knowledge and tools to start QI projects.</i>	Stratis Health	Learning module, templates, and tools	Quality Improvement	Quality Improvement Basics - Stratis Health
Developing Program Performance Measures for Rural Emergency Medical Services <i>Measures intended for use in monitoring rural EMS performance at the community level.</i>	National Association of State EMS Officials	Information	Clinical quality measurement	Developing Program Performance Measures for Rural Emergency Medical Services
Best Practices for EMS Time-Critical Diagnoses <i>Examples of policy on the treatment of STEMI, Cardiac Arrest and Trauma. November 2018</i>	Wisconsin Office of Rural Health	Guidebooks	Medical Direction support	Best Practices for EMS Time-Critical Diagnoses
Telemedicine Framework for EMS and 911 Organizations <i>to provide information to EMS and 911 organizations exploring the possibility of using telemedicine. May 2021</i>	Federal Interagency Committee on EMS	Information	Telemedicine	Telemedicine Framework for EMS and 911 Organizations
Community Relations				
What is EMS? <i>Information on the history and function of EMS. 2017</i>	NAEMT	Information	Community awareness	What is EMS? NAEMT
Occupational Outlook Handbook – EMTs and Paramedics	U.S. Bureau of Labor Statistics	Information	Community awareness	EMTs and Paramedics : Occupational Outlook Handbook

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
<i>Summary of EMS occupations.</i>				
When Minutes Count <i>A Citizen’s Guide to Medical Emergencies</i>	Texas Department of State Health Services	Guidebook	Community response to emergencies	<u>When Minutes Count</u>
Funding and/or Fiscal Support				
Rural Ambulance Service Budget Model Manual & Tool <i>Provides a management tool that enables a service to enter known financial information into a simple, yet elegant preprogrammed spreadsheet. 2007</i>	HRSA	Guidebook & budgeting tool	Spreadsheet and guide to develop an EMS budget	<u>Rural Ambulance Budget Model</u>
A Systems Development Guide for Rural EMS: A Systematic Approach to Generate Budgets for Rural EMS <i>Designed to assist rural emergency medical services to generate budgets. January 2014</i>	National Center for Rural Health Works	Guidebook	Ambulance budgeting	<u>National EMS Budget Guidebook</u>
EMS Finance: What Does EMS Really Cost? <i>An overview on the cost of operating an EMS agency. 2019</i>	NAEMT & AIMHI	Webinar	Ambulance cost awareness	<u>AIMHI-NAEMT Webinar: EMS Finance—What Does EMS Really Cost?</u>
Navigating Reimbursement in 2020 <i>Insight on reimbursement hurdles in 2020, including understanding audits and the importance of conducting risk assessments. August 2020</i>	Pinnacle	Webinar	Ambulance reimbursement awareness	<u>Pinnacle Webinar Series: Navigating Reimbursement in 2020</u>
Funders of Rural Programs <i>List of organizations who provide funding for rural health programs.</i>	RHIhub	Information	Funding provider list and contact information	<u>Funders of Rural Programs</u>

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RESOURCE DESCRIPTION	OWNER	TYPE	TOPIC	LINK
Grants <i>Grants and grant application guidance.</i>	Substance Abuse and Mental Health Services Administration	Funding	Grant information	Grants SAMHSA

3. Summary of the gaps in accessing or implementing resources

The items listed in Table 4 were identified through interviews with partner organizations as resources they would like to see in the future.

The Gaps summary in this report offers opportunity to develop resources that will contribute to the sustainability of rural ambulance services and the rural EMS system. Some of the resource gaps have been addressed by other organizations and may serve as fine examples and foundations to develop new resources. Other resource needs will need to be developed organically with input from various contributors. Partnerships in resource development are necessary to bring perspective and expertise together to develop resources that provide support and solutions. An investment in resource development and management is necessary and should focus on these areas of rural EMS sustainability:

- Workforce recruitment and retention
- Educating the incoming workforce
- Continuing education and training of the workforce
- Supporting leadership development
- EMS management training and support
- Medical Direction and quality of clinical care
- Community relations and engagement
- Supporting the fiscal needs of rural EMS

Table 4. Gaps in Resources available for rural ambulance sustainability activities

Category	Current State	Desired Future State	GAPS
Recruitment & Retention	The marketing of jobs in EMS occurs sporadically and mostly at the ambulance service level.	Statewide EMS career campaigns that attract individuals into the profession.	Lack of coordinated and consistent marketing and messaging on the value and benefits working in EMS.
Recruitment & Retention	EMT and EMR training and work study opportunities in the high school exist in larger school districts.	EMT and EMR training and work study opportunities available to all high school students.	Lack a coordinated approach and support to ensure EMT and EMR training and work study programs are available in high schools regardless of size and location.
Training & Education	Training programs are offered as in-person classes with few virtual options.	Virtual EMS education offerings that are affordable and limit travel requirements.	Lack of offerings that include online and hybrid education and training options.
Training & Education	Simulation and virtual reality-based trainings opportunities are available but limited.	Simulation and virtual reality-based trainings are conducted by training centers and ambulance service training departments.	Minimal training opportunities for education department staff to become trained in conducting simulation and virtual-reality trainings and to conduct trainings with meaningful scenarios that are tailored to each services needs and patient care guidelines.
Leadership	EMS managers, Medical Directors and stakeholders become aware of resources through multiple communication channels.	Resources are identified, reviewed and validated by a network of organizations and agencies. Resources are shared amongst the network, strategically communicated to stakeholders and cataloged to ensure ease of access and continued communication.	Resources are communicated through multiple channels by numerous organizations and agencies. Communications and continued access to resources are not coordinated leading to, at times overwhelming recipients, and at other times, leaving out stakeholders who may benefit from the resource(s).
Leadership	EMS managers learn how to manage ambulance services by different methods and offerings.	Access for all new ambulance manager to a standardized ambulance manger training program that includes Minnesota-specific material.	Minnesota-specific ambulance manager training is not consistently available.
Leadership	New ambulance manager’s network with experienced colleagues when opportunities exist.	Ambulance managers have opportunities to network with each other to learn from each other and work together.	Inconsistent networking opportunities providing time to share between managers.
Leadership	Community-based EMS groups exist in some communities bringing together stakeholders to share concerns, ideas, and opportunities.	Organized community-based EMS groups are formed and meet in all communities to provide input to ambulance services.	Lack of a model, best-practices guide, and assistance in forming community-based EMS advisory groups.
Leadership	A formal and standard acknowledgement and appreciation programs for EMS mangers doesn’t exist broadly across the state.	A state coordinated appreciation program that acknowledges the work EMS Managers do and the value they bring to their service and community.	Lack of a formal appreciation program for EMS Managers.

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Category	Current State	Desired Future State	GAPS
Leadership	A formal, statewide mentoring program for EMS managers does not exist.	New and upcoming EMS Managers have access to a formal mentoring program to connect them with experienced individuals that can assist them in growing and learning and leaders and managers.	Lack of a formal, statewide mentoring program for EMS Managers.
Leadership	The hiring of ambulance managers varies from service-to-service. Some services have in-depth process while others have little to no standardized process at all.	Ambulance services have access to a resource that they can use to develop a new hire program.	Lack of a standardized playbook or best-practice guide for ambulance services to follow when hiring a manager and staff.
Leadership	Leadership training for managers and staff are available in multiple formats but not completed by all ambulance managers.	Ambulance managers and staff have broad opportunities to access leadership training.	Financial resources to offer leadership training to all ambulance staff limits participation.
Medical Direction	Medical Direction is provided from numerous entities with inconsistent engagement of Medical Directors and their associates.	Consistent engagement by Medical Directors and their associates to provide adequate access to ambulance managers, training officers, and quality staff.	Inconsistent incentives for Medical Directors to engage with ambulance managers and staff to provide guidance and oversight.
Medical Direction	All ambulance services conduct some type of performance improvement activities as required by statute.	All ambulance services conduct a performance improvement program based off a recognized industry standard.	Lack of resources to help develop, manage, and enhance performance improvement programs, especially for smaller rural services with limited staff.
Medical Direction	All ambulance services collect service and clinical data electronically. Some utilized the data to support operations and clinical programs.	Data and analytics are used by all ambulance services to guide operational and clinical decisions and performance.	Minimal access to training on the use of data and analytics by ambulance managers.
Community Relations	“What is EMS” is not well understood by community leaders and the layperson.	The value of EMS is understood, respected, and valued by community leaders and citizens.	Coordinated community awareness campaigns are limited to EMS Week and sporadic local initiatives. Statewide, coordinated, consistent campaigns do not exist.
Community Relations	Social media is used by some ambulance services for marketing and recruiting activities.	Ambulance managers use social media consistently and effectively.	Social media training and best-practices focusing on ambulance service management is not widely available to all managers.

4. Next steps: Support data gathering and strategic planning for future resources and sustainability efforts

As a result of the gaps analysis process, differences in rural ambulance management became quite apparent. Capabilities of rural ambulance managers closely mirror the time spent managing the service, the support they receive from their organization and whether managing the ambulance service is their primary or secondary career. Three categories of rural ambulance managers were identified: volunteer/low call volume, part-time/mid call volume, and full-time/high call volume. These categories are beneficial for planning purposes. For the purposes of this Report, the categories are defined as:

- Volunteer/low call volume – an ambulance service staffed by individuals who do not consider their employment as their primary source of income, managed by a person who is not formally trained in EMS management and does not consider managing the ambulance service their primary job. Call volume under 500 calls per year.
- Part-time/mid call volume – an ambulance service staffed by a mix of individuals. Part-time or full-time employees who may consider their employment as their primary sources of income, and others who may volunteer their time or may be nominally reimbursed for their service. Managers may be formally trained in EMS management and may consider managing the ambulance services as their primary job. Call volume 500-1000 calls per year.
- Full-time/high call volume - an ambulance service staffed by part-time and full-time employees who consider EMS as their primary career. Managers are formally trained in EMS management and are employed primarily as managers. Call volume over 1,000 calls per year.

The categorization of how a manager's time is compensated, and the call volume of the service are determined subjectively. This differentiation is important and helpful in planning for future resources and sustainability efforts as the needs amongst like services are much the same.

Regional EMS Program Directors shared their perspective on resource awareness by managers in each of the three categories of rural ambulance managers.

- Managers of lower volume services who volunteer their time or are employed in a very part-time role tend to lack awareness of available resources. Many have full-time jobs that may be unrelated to EMS, health care or public safety resulting in minimal time allowed to identify and track available resources. A lack of time to identify and track resources was identified as the greatest factor affecting their knowledge of available resources.
- Mid-sized services with managers who staff the position part-time seem to access resources when they come available and are active participants in regional EMS program offerings.

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- Full-time managers of larger volume services who are career EMS professionals have the greatest knowledge of available resources. Their services are typically a division of a large health care system or a department of a larger rural city with many employees with vast areas of expertise. These ambulance services frequently create their own resources to support operational and clinical functions.

Development and management of resources should focus on the needs of the managers of the lower volume services. By doing so the greatest need will be met while providing value to all rural ambulance managers.

Qualities of valuable resources include:

- Concise – Provide clear information in as few words as possible.
- Relevant – Resources that are closely connected with the responsibilities of an ambulance manager and provide solutions.
- Timely – Resources that address responsibilities, trends, and issues that are relevant in the present or near future.
- Current – Resources that are reviewed consistently to remain pertinent to the present time.
- Validated – Recognized to be accurate and have value.

Many agencies, organization, associations, and companies have invested in supporting rural EMS sustainability. The resources cataloged in this report are proof of these investments. Many of the resources available have been developed as the result of an identified need. Often these resources were developed with the support of one-time funding. These resources served a purpose when they were developed and continue to have value in support of rural EMS sustainability. Without continued management of existing resources to ensure they remain current and relevant their value diminishes. Investing in the management of resources and identifying responsible parties to monitor the rural EMS environment and make updates is necessary. The ongoing investment in resource management will preserve their value and cost less than developing new resources as times change.

The Rural EMS Resource Center was developed to identify, evaluate, and communicate resources available to rural ambulance services in support of their sustainability efforts. While many agencies, organizations, and associations develop, manage, and communicate resources a single collection point and managed communication plan has proven helpful to rural ambulance services and rural EMS stakeholders.

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