Report to
The Vermont Legislature

Vermont Regional Emergency Medical Services Coordination Study 2024 Report to the Legislature

In Accordance with Act 78 (2023) Sec. E.312.1

Submitted to: **House Committee on Health Care**

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Executive Summary

In Vermont, emergency medical services (EMS) are delivered by a diverse group of organizations. These include municipal EMS, municipal fire-based, private not-for-profit, private for-profit, and hospital-based services. The diversity across the delivery of emergency medical services results in a system where costs per transport can vary widely, and no single financing model will meet each organization's needs.

There is also significant variability among Vermont EMS services' financial situations, with some faring well and others facing acute challenges to their long-term viability. Crucially, while parts of the Vermont EMS system are under great stress, the system is not in crisis. Indeed, there are a number of targeted investments and improvements that should be considered that can move services towards financial sustainability, and ultimately optimize the EMS system within the existing framework. Doing so is likely to be more efficient and effective than a complete system redesign – a complex undertaking that presents its own distinct challenges – and provides EMS services with the agency to identify and implement the solutions that allow them to best serve their community. As discussed below, there are investments that can be made now that will enhance the system, improve service sustainability, and help some services identify that significant additional reform or consolidation may be their best path forward.

Accordingly, the following recommendations offer opportunities to meaningfully improve the EMS system in the near term while considerations about larger system reforms can continue to be investigated. These recommendations are described in detail later in this report.

Cost of Service and Funding Model Recommendations

- Establish and enforce EMS service performance requirements.
- Incentivize regional coordination in those areas of the state at risk of losing access to high-quality pre-hospital care.
- Provide EMS services with technical assistance.
- Enhance and expand the use of EMS data to support evidence-based operational and clinical decision making.
- Support EMS workforce development and sustainability by offering EMS initial and continuing education at no cost to current and future EMS personnel.
- Improve workforce recruitment and retention through incentives.

Coordination Across Agencies Recommendations

- Modernize the emergency communications system.
- Create an EMS Task Force to support response coordination among services.

EMS District and Authority Recommendations

- Continue to work with EMS stakeholders to refine a vision and mission for EMS Districts that reflects core values and focuses on current and future needs.

EMS Mental Health and Wellness Recommendations

- Support EMS workforce retention by ensuring EMS clinicians have access to mental health and wellness resources and support.

Introduction

Act 78 (2023), Sec E.312.1 requires the Department of Health to conduct a regional coordination study to identify issues and provide recommendations for legislative consideration to sustain and improve the provision of EMS for Vermonters, focused on the following areas:

(1) issues related to costs of service and existing funding models;
(2) issues related to coordination across agencies; and
(3) issues related to EMS District structure and authority, including consideration of recommendations on the number and configuration of EMS Districts and their powers, duties, and authority.

The Department of Health contracted Emergency Management Matters, LLC to design and implement the study processes, facilitate engagement with internal and external stakeholders, and provide subject matter expertise to develop this report.

Through a comprehensive engagement process, including focus groups, one-on-one interviews, surveys, email communications, website forms, and open meetings held virtually and in-person across the state, over 673 stakeholders participated. A Regional EMS Study Committee was formed with representatives from across all stakeholder groups. Through participation from the Study committee members, emergency medical service professionals, citizens, hospital staff, physicians, government leaders, and key stakeholder groups, consensus was found in some focus areas and created additional questions in others.

Background

The Vermont EMS system is diverse, with various service types, models, and business structures. Vermont's 256 municipalities are served by 78 ambulance services, one air medical service, and 89 first-response non-transporting services. In 2022, the statewide EMS system responded to 121,472 public requests for emergency medical care. EMS professionals provide an essential service by delivering basic and advanced emergency medical care and specialized ambulance transportation to all residents and visitors of the state in need. Furthermore, EMS directly supports patients, hospitals, and other health care entities by providing medical care and transportation for the sick and injured, moving between facilities, commonly referred to as interfacility transfers. During 2022, EMS performed 17,103 interfacility transfers.

Throughout an eight-week engagement process, the following findings and recommendations were developed.

Study Findings – Cost of Service and Existing Funding Models

The diversity across the delivery of emergency medical services results in a system where costs per transport can vary widely, and no single financing model will meet each organization's needs. For example, law enforcement and the fire service are primarily financed by public tax dollars and are eligible for a greater number of federal grant opportunities, generally resulting in better financial stability and predictability for communities when compared to services that are unable to rely on public financing.

Vermont is ranked 49th in the country by population and 45th by area. With 79 licensed ambulance services serving the state, there is one ambulance service for every 8,290 Vermonters. 67% of ambulance services respond to 1,500 calls or fewer annually. Low ambulance utilization rates increase the cost per call, requiring greater amounts of government funding to sustain EMS services.

Historically, the EMS system has been financed through a fee-for-service model for ambulance transportation. This means that if the patient is not transported by ambulance to an emergency department, insurance would not reimburse an EMS service for the cost of deploying personnel and equipment and delivering medical care at the scene. As the cost of personnel, equipment, and supplies has increased, the reimbursement rates paid by private insurance and government programs (Medicare & Medicaid) have not kept pace. Additional revenue in the form of local government subsidies, subscriptions, private donations, and fundraising has been necessary to pay for the cost of readiness, and to make up the difference not covered by insurance. Insufficient reimbursement rates compounded by the inadequacy of the fee-for-service model for ambulance transportation results in continued financial loss for some EMS services.

Many EMS service representatives report insufficient funding year after year. Without sustained and reliable funding, EMS services go without adequate staffing and modern equipment. This leaves EMS services unprepared and ill-equipped to respond to traumatic injuries and medical emergencies, mass casualty incidents, and medical surge events.

In 2023, representatives from the American Ambulance Association, the Vermont Ambulance Association, and others successfully secured a two-year extension of the Medicare add-on payments (2% urban, 3% rural, and 22.6% super rural) from Congress. Add-on payments temporarily augment the Medicare Ambulance Fee Schedule and increase payments to ambulance providers. During the same year, Vermont Senators Peter Welch and Bernie Sanders introduced the *Emergency Medical Services Reimbursement for On-Scene Care and Support Act*, which, if enacted, would provide Medicare reimbursement for emergency medical services provided on the scene, and does not necessitate the transport of a patient to a hospital emergency department. Vermont Representative Becca Balint introduced companion legislation in the House of Representatives.

During the 2023 Vermont Legislative session, the Medicaid reimbursement rate for ambulance transportation was increased to 100% of the Medicare reimbursement rate. Additionally, a new regulation in effect on July 1, 2023, will allow Medicaid reimbursement to an EMS service for emergency medical care provided to a Medicaid beneficiary even if it does not result in transport

to a hospital emergency department (Medicaid HCAR Rule 4.102). While these are important improvements to the payment model for EMS services, the sufficiency of these current rates to cover the cost of care and transport are still being assessed. Since January of 2022, the Centers for Medicare and Medicaid Services (CMS) has been actively collecting cost, revenue, utilization, and other information from providers of ground ambulance services. This information collected will ultimately be provided to the Medicare Payment Advisory Commission (MedPAC), which is required to report to Congress on the adequacy of Medicare payment rates for ambulance services.

An appropriately staffed and equipped EMS service will have a higher cost of readiness as compared to an understaffed and ill-equipped EMS service. The cost of readiness, the degree to which an EMS service is prepared to respond, is a decision that is primarily guided by local community preferences regarding how best to balance the priorities of timely response, clinical outcome goals, and the public's willingness to pay. High readiness costs can pose a significant financial challenge for an EMS service. Maximizing reimbursement for services rendered is vital to lowering the cost per call subsidized by the local municipality.

Historically, volunteers have been an integral component of the staffing model in the EMS system, and they continue to be so for many EMS services. EMS service representatives report it is becoming increasingly difficult to recruit and retain volunteer EMS personnel. In some areas of the state, reports suggest relying upon volunteers to staff ambulances is not sustainable. Relying on volunteer personnel has shielded communities from the true cost of adequate EMS staffing. Rising EMS personnel costs and decreasing volunteerism have resulted in sudden and unplanned expenses for EMS services and municipalities.

Inadequate EMS system financing has made recruiting and retaining EMS personnel to fill full- and part-time positions increasingly difficult. Stagnant and non-competitive wages have resulted in high workforce turnover and limited career growth opportunities. EMS personnel across the state report having to work several jobs to make ends meet. In some cases, EMS personnel report they cannot afford to work in EMS and have, or are planning to, move out-of-state or change professions. Rural EMS services are at a disadvantage due to low-call volume, insufficient reimbursement revenue to support the cost of readiness, longer transport times and distances traveled, and difficulty recruiting and retaining volunteer and paid personnel. A shrinking volunteer workforce places an ever-growing burden on a declining number of dedicated volunteer staff.

Across the state, stakeholders recommended incentivizing participation in the EMS system as a means for improving recruitment and retention of EMS personnel. Suggestions included:

- *Property tax credits*
- *Access to a retirement system*
- *Access to health insurance*
- *Offsetting the cost of childcare*
- *College scholarships*
- *Tuition forgiveness*
- *Professional development opportunities*
- *Public recognition programs*

A properly funded and staffed EMS system ensures the public will have access to high-quality, timely, and geographically equitable pre-hospital emergency medical care. Adequate funding

allows EMS services to be financially stable and strengthens the workforce by offering career opportunities with wages, benefits, and retirement options that are commensurate with the profession's education, role, and responsibilities.

Knowledge gaps and capacity limits prevent EMS services from gaining an understanding and consensus around service viability, regionalization, and sustainability. EMS service leaders indicated that more technical support and education is needed in the areas of business management, planning, leadership, and communication. The Department surveyed EMS services to better understand their needs and priorities and received responses from 44 of the 79 EMS services (56%). More than 70% of respondents identified "budgeting and finance" as a primary area where support is needed; 35% of the respondents indicated they are concerned about their service's long-term viability; nearly 40% do not have a strategic plan. Technical assistance addressing business management, planning, leadership, and communication to EMS service leaders is needed to build a coalition of understanding across the system.

The EMS Special Fund (18 V.S.A. § 908) receives an annual allocation of state funding in the amount of $150,000.00; this amount is well short of what is needed to train EMS personnel statewide. During 2022 and 2023, the annual cost of initial and continuing education courses, testing for national certification, specialty courses such as critical care paramedic, and the state EMS learning management system, exceeded $1.3 million dollars.

EMS service representatives report the recent infusion of one-time state funding for EMS education has positively impacted service staffing levels and has – for the time being – reduced or eliminated cost as a barrier to building and sustaining the EMS workforce.

Between June 2022 and November 2023, 1,492 Vermonters enrolled in one or more of the 101 state funded EMS education courses. Of those, 574 students participated in one of the 43 certification or licensure courses. As of December 1, 2023, 332 have completed their training and obtained state certification or licensure. That number is expected to increase as other courses come to an end and students complete testing.

The state EMS learning management system, which has an annual cost of $170,000.00, serves as an important source for on demand continuing education. During 2023, 30,577 continuing education hour credits were issued to Vermont personnel. These credits are needed for national recertification every other year.

Recommendations

Establish and enforce EMS service performance requirements. Develop standardized, reasonable, measurable, and reportable unit availability and response time standards, clinical outcome goals, and consumer satisfaction benchmarks, with the goal of maintaining and improving the provision of EMS across the state.

Incentivize regional coordination in those areas of the state at risk of losing access to high-quality pre-hospital care. By working together, municipalities and EMS services can augment the resources available to appropriately support and balance the cost of staffing, infrastructure,

equipment, and supplies using transport revenue, municipal funding, and other sources of revenue, such as grants. This collaborative approach, in which responsibility for the system is shared by both the municipality and the EMS service, makes equitable and timely access to high-quality pre-hospital emergency medical care more feasible, and affordable, for all. Furthermore, it creates opportunities to improve recruitment and retention of EMS personnel by increasing full and part time job opportunities, improves wages and access to benefits, retirement programs, and expands career opportunities for volunteer and paid EMS personnel alike. Each community has distinct service needs and limitations (e.g. workforce, administrative, equipment); incentives for strengthening regional coordination should be tailored to effectively address those specific areas.

Provide EMS services with technical assistance. Across the state, EMS service representatives passionately described their commitment to and care for their community-based ambulance services. While also recognizing EMS as a business entity, they acknowledged their own organizational weaknesses in areas such as communications, best business practices, data analytics, managing finances, financial planning, developing staff, and operational planning. Modest investments in these areas will not only improve overall service performance, developing these skills among service administrators will enable them to consistently identify strengths, weaknesses, and opportunities for continued improvement.

Enhance and expand the use of EMS data to support evidence-based operational and clinical decision making. Many EMS services and EMS districts lack the technological expertise to access and analyze data collected in the Statewide Incident Reporting Network (SIREN). Decisions regarding operational effectiveness and improving the delivery of high-quality clinical care are often made subjectively. More support is needed to collect, analyze, and evaluate short- and long-term strategies to improve EMS operations and clinical care.

Support EMS workforce development and sustainability by offering EMS initial and continuing education at no cost to current and future EMS personnel. During the stakeholder engagement process, EMS service representatives and personnel from across the state expressed their gratitude for state funded EMS education. Free initial and continuing education has created the opportunity for new personnel to enter the EMS system, without having to pay out-of-pocket for their education and training. Current personnel expressed their appreciation for access to high quality continuing education opportunities. State-funded training has reduced, or in some cases, eliminated the budgetary pressure of training EMS personnel, allowing those dollars to be invested in other ways.

Improve workforce recruitment and retention through incentives. Recruitment and retention of talented EMS personnel is a clear priority area for many EMS services. Stakeholders identified a list of benefits (page 5) that could effectively incentivize worker participation, however, funding these benefits is currently not feasible for many services. As the number of requests for EMS responses to emergent and non-emergent calls for service increases, having an adequate workforce to meet this demand will be essential. In order to achieve this, investments that support EMS workforce expansion and development will be essential.

Study Findings – Coordination Across Agencies

The emergency communication system is a legacy, decentralized system that was not designed to support EMS operations. There is consensus across the state that the emergency communications system delays the deployment of EMS resources and extends the time the public must wait for EMS staff and resources to arrive at the scene of an emergency. The problem is further exacerbated when multiple emergency communications centers are involved in a response, such as when a request for emergency medical services requires a response from a mutual aid organization (i.e. a neighboring EMS service).

By failing to modernize, the emergency communications system lacks the capability to rapidly triage and prioritize a public request for EMS response, identify and deploy appropriate and available resources, and track deployed resources. The emergency communications system lacks the technical capability to efficiently coordinate regional and cross-regional EMS operations. When mutual aid response is needed, dispatchers use the telephone to contact other dispatch centers, and continue to call until an available ambulance is identified.

Unable to triage and prioritize public requests for EMS response, EMS resources may unnecessarily respond utilizing emergency lights and siren, increasing the risk of injury or death for the public and EMS personnel alike.

A modernized emergency communications system can be the conduit for connecting the public with mental health, substance misuse, and other community-based professionals who are better equipped to meet the needs of these callers.

Public requests for Vermont EMS response increased by 19% from 2018 to 2022. Interfacility transports increased by 11%. Without modernization, the emergency communications system will struggle to manage with the increasing utilization rate of EMS resources. Hospital representatives have reported significant difficulty and long delays when identifying available EMS resources to move patients between healthcare facilities. This is attributed to a legacy emergency communications system that lacks the capability to maintain situational awareness, unit availability, and coordinate EMS operations regionally.

EMS professionals and healthcare preparedness officials around the state have expressed a high level of concern for the current state of emergency communications. It is the weakest component in the emergency response system and is ill prepared to support medium to large scale deployment of EMS and other first response resources in the event of a mass casualty incident (e.g. active shooter), or medical surge event (e.g. evacuation of a nursing home). Vital time will be lost, and unnecessary delays will occur, as dispatchers primarily rely upon the telephone in their search for EMS resources. Dispatch centers will be overwhelmed attempting to identify and deploy EMS resources during a large-scale incident and support everyday emergency requests for EMS response.

Recommendations

Modernize the emergency communications system. The development of an emergency communications systems designed for EMS operations, and supporting EMS personnel, is needed to allow for efficient and effective triaging of requests for EMS response, call prioritization, dispatching of appropriate resources, resource accountability, availability, and regional coordination. A modern emergency communications system utilizes technology to support the efficient transfer of information, improves situational awareness, EMS system management, and reduces the workload for communications staff and EMS personnel. The public will benefit from a system that efficiently triages requests for out-of-hospital care and deploys EMS and non-EMS resources most appropriate for the situation.

Create an EMS Task Force. An EMS Task Force is an entity that maintains agreements with existing EMS services. In the event of a mass casualty incident or medical surge event, it has the means of rapidly notifying, deploying, and organizing existing EMS resources and staff from around the state as part of a coordinated Task Force response, supplementing local resources, and providing subject matter expertise. Until the emergency communications system is modernized, it is vitally important to create an alternative system to meet this emergency preparedness need.

Study Findings - EMS District Structure and Authority

EMS districts are organizations established around hospital catchment areas and charged with fostering and coordinating EMS operations within their geographical boundaries. However, EMS services across the state lack the capacity to provide the administrative responsibilities 24 V.S.A. § 2657 requires. For example, 24 V.S.A. § 2657, outlines the powers of EMS districts, which includes, "…make recommendations to the Department of Health regarding licensure, re-licensure, and removal or suspension of licensure for ambulance vehicles, ambulance services, and first responder services…"

The heavy reliance on volunteers to staff EMS services, fill key EMS district positions, and coordinate regional EMS operations is an unsustainable model. While some districts are nearly inactive, others are marginally functional, and just a few are reasonably structured and functioning. For those EMS districts that are functional, their volunteer representatives have stressed they are at or near capacity and are concerned about future viability as fewer individuals are willing to volunteer their time. EMS representatives from around the state have agreed this is no longer needed, and they would prefer the state EMS Office to fully carry out such responsibilities.

The EMS district model was never realized as it was envisioned. 24 V.S.A. § 2657 grants EMS districts the authority to purchase various products and services, receive grants and other forms of aid, employ agents and employees. Many EMS Districts have not established themselves as a business entity, and therefore lack the means to open a bank account or receive and send payments. Few collect charges or fees, and no EMS districts employ agents or employees. This has resulted in a reliance on volunteers, which has proved to be both inadequate and unsustainable. Due to these limitations, many EMS districts are unable to utilize state or federal

funding, resulting in geographically inequitable access to EMS education and training. For example, on an annual basis each EMS district is eligible to be reimbursed from the EMS Special Fund, an amount not to exceed $9,000.00, for expenses related to training, data collection and analysis, and delivery of EMS. Only five of the 13 EMS Districts submitted for reimbursement during 2021, 2022, and 2023.

EMS representatives and the EMS Office agree that a partnership and collaborative relationship with physician medical advisors (EMS District Medical Advisors) around the state is an important attribute of a high-quality EMS system. Physicians serving as EMS District Medical Advisors play a crucial role in medical oversight, quality assurance, and improvement and liaisons between emergency medical services and their local hospitals. District Medical Advisors have reported a lack of funding and capacity limits to the support they can provide to EMS services. The statewide EMS system, and the public, will benefit from a renewed role for EMS districts, and one that focuses their work on developing quality assurance and quality improvement programs, coordination of resources, collaborating with medical oversight, and emergency planning. Staffing and funding support for the EMS districts will be needed to achieve this goal.

Recommendation

Continue to work with EMS stakeholders to refine a vision and mission for EMS Districts that reflects core values and focuses on current and future needs. The Department has developed a draft vision, conceptual framework, and objectives for EMS Districts of the future. Our vision includes a reduced number of Medical Oversight Districts, with a renewed focus on clinical and operational quality assurance and improvement, local coordination, and response planning.

EMS service representatives, personnel, and others have expressed an ongoing need for regional organization, communication, and coordination between EMS services and physician medical directors; the Department agrees. To be successful, Medical Oversight Districts will need to leverage existing talent and subject matter experts while having access to resources in the way of funding, staff, and support for district representatives and physicians.

The Department has experienced great success through the establishment of technical advisory groups. Talented and motivated EMS personnel from around the state have collaborated with EMS Office staff and made valuable contributions in the areas of EMS protocol development, EMS for Children, and a statewide systems approach for EMS education and training. The Department sees great potential for continued collaboration following this model in the future, and as an integral part of the cooperative relationship between the Department, future Medical Oversight Districts, and EMS stakeholders.

While a conceptual framework has been drafted, more opportunity is needed to collaborate with the EMS community to establish consensus on such a plan. The Department is actively leading this effort.

Study Findings - EMS Personnel Mental Health and Wellness

More than 85% of surveyed Vermont EMS clinicians categorized their work as stressful. The first responder workforce, in particular, experiences high prolonged occupational stress due to the nature of the work responding to emergency situations and providing lifesaving healthcare in Vermont communities.[1] Occupational stress injury describes a "broad range of psychological and other conditions resulting from duties performed on the job that interferes with a person's professional and personal life, including anxiety, depression, and post-traumatic stress disorder (PTSD)."[2] Additionally, other contributing factors include low pay, resulting in the need to have multiple jobs, a lack of healthcare and other benefits, especially for volunteers, unreasonable workloads, and exposure to secondary or vicarious trauma during emergency calls.

The combination of prolonged high occupational stress and lack of resources causes EMS clinicians to be at significant risk for mental health issues (including depression, anxiety, and post-traumatic stress disorder) and worse overall health outcomes when compared to the general population.[3] According to the Substance Abuse and Mental Health Services Administration (SAMHSA), roughly 1 in 3 first responders develop PTSD, as compared to 1 in 5 among the general population.[4] According to the CDC, EMS providers are 1.39 times more likely to die by suicide than the public.[5]

The Vermont Emergency Service Provider Wellness Commission 2023 Legislative report has identified that many Vermont EMS clinicians and EMS leaders lack awareness and access to mental health support meant to reduce mental health issues and promote well-being among this population. When EMS clinicians are healthier and able to access support to reduce the inherent occupational stress of the work, they can stay in the workforce and increase workforce retention. If these issues are not addressed, coupled with long hours, low wages, multiple jobs, and limited access to benefits and mental health support, the result is high turnover and a struggle to recruit new clinicians into the workforce. The 2023 Wellness Commission report outlines several organizational and individual strategies and interventions to that can improve the health of this population, including increasing access to mental health services and peer support teams to reduce occupational stress and trauma to first responders.

Recommendation

Support EMS workforce retention by ensuring EMS clinicians have access to mental health and wellness resources and support.

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