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Identifying a Consensus Set of EMS Agency Licensure Elements and Definitions to Support Rural EMS Data Collection

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KEY FINDINGS

- This study identifies opportunities to address critical rural emergency medical services (EMS) information gaps: (1) an inability to quantify dependency on volunteer staffing; (2) a lack of data on agency staffing and service levels; and (3) a limited understanding of agency service areas.
- Adoption of a standardized set of agency licensure data elements and definitions for personnel, response capacity, service types, service areas, and contact information would support efforts to understand and improve rural EMS capacity and gaps at both state and national levels.
- States vary widely in the depth and detail of information collected through their agency licensure applications, particularly related to personnel status and staffing levels.
- To quantify the dependence of rural EMS agencies on "volunteers," we recommend changes to distinguish between paid and unpaid ("volunteer") staff, define nominal compensation for purposes of identifying unpaid staff, and capture the reliance on unpaid staff for regularly scheduled versus on-call/on-demand shifts using full time hourly equivalent calculations.
- To take advantage of state EMS agency licensure data will require a process to encourage state EMS authorities to adopt these consistent data elements and definitions as well as to collect and aggregate state data into a national data set.

INTRODUCTION

Prior Flex Monitoring Team (FMT) studies on the development of rural-relevant emergency medical services (EMS) performance measures and the availability of state data systems to monitor rural EMS systems of care identified significant gaps in data on the state of rural EMS in the United States.[1,2] The National Rural Health Association also highlighted similar issues in its January 2022 position paper calling for the implementation of an EMS data reporting and monitoring system.[3] Anecdotal evidence describes the dependence of rural EMS agencies on volunteers to provide services. However, it is difficult to quantify the extent to which rural EMS is dependent on volunteers due to a lack of data on EMS staffing patterns nationally and an inconsistent definition of volunteers across the 50 states.

Members of the expert panels assembled for past FMT projects also described the lack of national data to quantify the scope and provision of EMS services in rural communities. During our 2016 study on developing rural relevant EMS performance measures, our expert panel identified three information gaps that challenged efforts to improve rural EMS systems of care: (1) an inability to quantify the dependence of rural EMS agencies on volunteer staffing; (2) a lack of data on EMS agency staffing and service levels; and (3) a limited understanding of the service areas of individual EMS agencies. The National Association of State EMS Officials (NASEMSO) raised similar workforce concerns in its 2014 report, *EMS Workforce Planning and Development.*[4]

The expert panel for our 2020 study on the use of state data sources to monitor rural EMS performance improvement reaffirmed these gaps in our knowledge. That study concluded that a consistent set of core licensure elements and definitions would provide an opportunity to address these rural EMS data gaps.[2] Other studies on rural EMS assessment strategies and on identifying ambulance deserts further reinforced the challenges created by the lack of easily accessible agency contact information and limited data on EMS agency services areas.[5,6]

This study builds on these recommendations by identifying a consensus set of core EMS licensure elements and definitions for consideration by state EMS authorities. If adopted consistently across states, these changes would provide standardized data to state and national policymakers to identify and address gaps in ground ambulance and EMS coverage in rural areas. Through a review of the EMS ground ambulance licensure applications from 48 states, our FMT study team prepared an inventory of data elements collected by state EMS authorities and their related definitions. Our expert panel reviewed this inventory and re-affirmed the three core areas of state licensure data that would benefit from consistent definitions to aid in our understanding of rural EMS systems of care – personnel, service levels and types of services, and agency service areas. This brief summarizes the recommendations of the expert panel and provides suggested definitions for these three categories of state EMS licensure data. The intent is to provide a review of rural data needs and requirements that should be addressed in efforts to collect EMS agency level data. It was noted by a member of the expert panel that this insight into rural EMS data needs is often lacking among some national stakeholder EMS groups.

APPROACH

Data Analysis

The FMT study team collected and reviewed available state EMS agency licensing applications (both initial and renewal) and supporting documents to create an inventory of the data elements collected from ground ambulance services by state EMS authorities in all states except Nevada* and California.† Supporting documents included agency and vehicle inspection checklists; vehicle applications or rosters; personnel rosters; and as needed, supporting regulatory statutes. We then categorized the data elements found in the agency licensing applications and documents into the following areas:

- Licensing
- Contact information
- Organizational and/or ownership type
- Service elements
- Administrative elements
- Policy, Protocol, and Procedures
- Personnel
- Vehicles
- Dispatch
- Service Areas

Since state applications vary in their nomenclature for many of the elements in the agency licensure applications, we reviewed the *National EMS Information System (NEMSIS) Data Dictionary* (version 3.5.0 Critical Patch 4, 2023) to provide a consistent framework for categorizing and comparing the specific agency licensure elements.[7]

*Nevada does not make a copy of its EMS licensure application available, except through its online licensing portal. Despite numerous requests, we were unable to obtain a list of Nevada's licensure data elements.

†California does not have a traditional EMS licensure system. California's Emergency Medical Services Authority (EMSA) provides statewide coordination and leadership for the planning, development, implementation, and evaluation of local emergency medical services agencies (LEMSAs). LEMSAs are required to annually submit a plan to EMSA for the assessment of their EMS system and to determine whether the EMS plan meets the following EMS system components: (1) manpower and training; (2) communications; (3) transportation; (4) assessment of hospitals and critical care centers; (5) system organization and management; (6) data collection and evaluation; (7) public information and education; and (8) disaster response. LEMSAs, which are county or multi-county-based entities, are responsible for approving/designating EMS agencies within their services areas.

We recruited a panel of rural EMS experts to assist us in our selection of a core set of licensure elements and definitions (Appendix A). The panel consisted of individuals from national organizations (the National Association of State EMS Officials, the National EMS Information System Technical Advisory Committee, the Paramedic Foundation, and the American Paramedic Association), State Offices of Rural Health (Kentucky), and state EMS authorities (Florida, Georgia, and North Dakota). Members included individuals who had served on expert panels from previous FMT studies and new members. Panel members were provided with a description of the study, a copy of the licensure inventory, and background literature, and were asked to identify additional resource materials to support our project.

Members of the expert panel were convened twice with a defined agenda for each meeting. For the initial meeting on August 15, 2022, panel members were asked to review the inventory of EMS agency licensure elements and identify the core areas that would benefit from a consensus set of definitions. Discussion focused on agency staffing and personnel, service levels and types, and agency service areas as these data categories were deemed to be most relevant to understanding the rural EMS landscape and to support efforts to improve EMS capacity building and performance. These categories of data elements align with the knowledge gaps identified in our past studies as described above. At the second meeting on August 29, 2022, we asked panel members to reflect on the overall goals for this project in the light of other EMS data initiatives and to provide input on the development of definitions for data elements in the three core areas described above.

SUMMARY OF EXPERT PANEL DISCUSSIONS

In general, members of the expert panel supported the focus on the three core areas of EMS licensure data discussed earlier – personnel, service types and levels, and service areas. They also strongly suggested that we rely on two key resources to support our efforts to develop definitions for the core data elements: the National Highway Traffic Safety Administration's (NHTSA's) *National Emergency Medical Services Workforce Data Definitions*[8] and the *NEMSIS Data Dictionary.*[7] Panel members explained that EMS has relied historically on these sources to define the field of EMS and advised that deviating from these nationally recognized data elements would be problematic. Additionally, we examined the National Association of State EMS Officials' (NASEMSO's) *Proof of Concept for a Nationwide Highway Mass Casualty Readiness Measurement Project: Model Inventory of Emergency Care Elements (MIECE)* to support discussions related to response capacity of rural EMS agencies.[9] We further relied on information obtained through our internal inventory of state EMS licensure applications to shape our recommendations.

One of the challenges of using the definitions from the *NEMSIS Data Dictionary* is that it provides data elements (i.e., labels and descriptors) but not specific definitions for some data elements. This is complicated by the fact that states often have their own definitions for different data elements. If their definitions do not align with the NEMSIS data elements, the ability to interpret and compare data across states is compromised.

Members of the panel raised additional key points regarding these three categories of licensure data:

- Volunteers are treated differently across EMS agencies. In some agencies, volunteers receive compensation for their work (often on a run or on-call basis). Others are true volunteers, as the term is commonly used, and receive no direct compensation.
- State definitions for the term volunteer mirror these differences which makes it difficult to understand the actual capacity of individual EMS agencies. Given the variations in state language regarding volunteers, panel members recommended using the terms "paid" or "unpaid" and include contract personnel on agency rosters.

- States collect personnel data both through their individual licensure and credentialling portals as well as their agency licensure portals/systems.
- The EMS workforce is in constant flux as staff move from one agency to another, work for multiple agencies, or work across state lines. Given this, agency employment rosters are best understood as a snapshot at the time of application or renewal.[‡]
- Overall staffing levels may not provide an accurate reflection of the number of staff that can respond immediately to calls. Response capacity will vary depending on the mix of staff paid to cover specific shifts on site at the agency and volunteer on-demand/on-call staff.
- The ability to assess EMS capacity could be enhanced by asking agencies to report the annual hours of ambulance coverage needed and the number of full and part-time staff by full-time equivalent (FTE) hours as well as the number and availability of unpaid staff by FTE hours.

Concerns were raised about whether our study might overlap with NASEMSO's efforts to develop the National EMS Coordinated Database (NEMSCD)[10,§] and NEMSIS's efforts to strengthen the consistency and frequency with which EMS agencies submit demographic files to the NEMSIS data system. One panel member noted that the FMT's efforts could support both the NASEMSO and NEMSIS efforts by bringing some consistency to their discussions of key data elements as well as providing a rural focus that is lacking in some national stakeholder groups.

FINDINGS AND RECOMMENDATIONS

Personnel

A sizable portion of our first expert panel meeting was spent discussing the variability in data collection on the EMS workforce, specifically the inability to quantify the extent to which rural EMS agencies depend on a volunteer workforce. Based on our inventory, we identified three important personnel data elements among the 23 state EMS authorities that collect personnel data as part of their licensure application processes that would benefit from a consistent definition. These included the definition of volunteer versus non-volunteer, non-compensated versus compensated, and part-time versus full-time personnel. Table 1 provides state examples of the types of information requested for personnel types and highlights the variation in the terms used and the definition of the terms by different states. These definitions are important as they speak to the capacity of an EMS agency to respond rapidly to a call. The discussion of the dependence on volunteer (unpaid) and on-demand/on-call staffing assumes that volunteers and on-demand/on-call staff will not be able to deploy as rapidly as paid staff, either full or part-time, working regularly scheduled shifts.

Before discussing the diverse ways that states classify EMS personnel as part of their licensure process, it is important to understand what information would be helpful to state EMS authorities in overseeing EMS services in rural areas as well as to state and national policymakers. This will help provide a better understanding of the gaps in rural EMS capacity and services. As part of the agency licensure process, key data elements include the number of staff by skill or certification level, employment status (i.e., full or part-time, paid or unpaid/volunteers), the number of FTE hours for each individual, whether staff employed on a set coverage schedule or on-call as needed, the level of response capacity, and the total number of FTE hours by licensure/certification level. A key concern is how quickly available staff can respond to a call as well as the availability of existing staff compared to the hours of ambulance coverage needed. We will address these issues in our recommendations.

[‡] Thirty-six states provided data in their licensure applications on the frequency for required renewals. Seventeen required annual renewals, eleven required biennial renewals, and eight required triennial renewals.

[§] NEMSCD is a web-based system designed to centralize EMS personnel license data across the member states.

TABLE 1: Employment and Volunteer Status Collected Through State EMS Licensing Processes

State	Full-Time	Part-Time	Volunteer	Notes
Alabama	x	x	x	Full or part-time paid, Volunteer
Delaware	x	x		Employee (full or part-time)
Georgia	x	x	x	Full or part-time paid, Volunteer
Idaho	x	x	x	Career (full or part-time), Volunteer (compensated or uncompensated)
Illinois	x	x	x	Full or part-time paid, paid volunteer, unpaid volunteer
Indiana	x	x	x	Paid (does not distinguish full or part-time), Volunteer
Kansas	x	x	x	Full or part-time paid, Volunteer (no compensation, reimbursed for expenses)
Kentucky	x	x	x	Requires list of personnel by FTE hours
Massachusetts	x	x	x	Full/part time paid, paid per diem, on call, or volunteer
Michigan	x	x	x	Non-volunteer (does not distinguish full or part-time), Volunteer (not paid, reimbursed for expenses)
Minnesota	x	x	x	Paid (does not distinguish full or part-time), Volunteer (< $6000/year and whose livelihood does not depend on volunteer pay)
Mississippi	x	x	x	Full or part-time, Volunteer
North Dakota	x	x	x	Paid-any pay no matter the amount (FT>30hrs, PT<30 hrs.), Non-compensated (receives no pay), Combination
New Mexico	x	x	x	Employee (does not distinguish full or part-time), Volunteer
New York	x	x	x	Paid (does not distinguish between full or part-time), Volunteer
Oklahoma	x	x	x	Full or part-time, Volunteer (no compensation or less than minimum wage)
Oregon	x	x	x	Full or part-time paid, Volunteer
Pennsylvania	x	x	x	Paid (does not distinguish full and part-time), Volunteer
Rhode Island	x	x		Full or part-time paid, Volunteer
Texas	x	x	x	Paid/non-volunteer (does not distinguish full and part-time), Volunteer
Vermont	x	x	x	Paid (full time), Volunteer (receives no stipend or reimbursement for calls or mileage). Must describe the model of pay, reimbursement, or stipend utilized
Washington	x	x	x	Paid (does not differentiate between full and part-time), Volunteer (nominal/no compensation)
West Virginia	x	x	x	Full or part-time, Volunteer, Paid per call

Recommendations:

- Unpaid staff will be further defined as receiving either nominal or no compensation with "nominal" defined as 20 percent or less than what an agency would pay to hire a full-time person for the same services (equivalent to one day per week or less).
- For paid staff, full-time is defined as 35 hours or more per week, and part-time is defined as less than 35 hours per week.
- The number of hours that each paid full-time, part-time, or unpaid (volunteer) staff person provides should be reported individually by FTE hours.

Defining Volunteer Status: Of the 23 states that collect personnel employment status, 22 requested information on volunteer status. Twelve of these 22 states did not define the term. In some ways, the issue of volunteer versus paid status confuses the real issue of concern which is the extent to which agency staff are available to fill the ambulance coverage hours needed and how quickly EMS personnel can respond to a call.

Recommendations:

- Since the term volunteer is used inconsistently by states, the study team recommends using the terminology "paid" and "unpaid" as a standard nomenclature for personnel in state EMS agency licensure applications.
- To address the issues of coverage and timeliness of response capacity, the study team recommends that state EMS authorities collect additional information to understand the extent to which staff: (1) are working regularly scheduled shifts and available to respond immediately to calls or (2) are "on-call" and available to respond as needed depending on their availability.
- The level of paid and unpaid staff, full-time or part-time employment status, and coverage status (scheduled or on-demand/on-call) should be reported by FTE hours for each category of licensed staff (using the list of personnel licensure levels identified by NEMSIS as described in Appendix A).

To support the collection of data on the extent to which staff are regularly scheduled for set hours of coverage or provide coverage on an on call or as needed basis, we have developed a sample reporting schedules for consideration by state EMS authorities to support their agency licensure process. The attached personnel roster (Appendix B) provides an example of how individual personnel information might be collected. Appendix C provides a sample summary of available hours by skill set to compare against the personnel hours necessary to fulfill hourly ambulance coverage requirements.

Service Levels and Types

Types of Service refers to the primary service provided by the agency and is useful for categorizing rural EMS agencies. Our definition is based on the *NEMSIS Data Dictionary* (Version 3.5).[7] (Appendix D). Adoption of this standardized list across states would allow for a comparison and categorization of rural EMS agencies by primary service type.

Level of Service refers to the minimum service level provided by an EMS agency which typically reflects the license granted by the state EMS authority. We relied on the NEMSIS definition for level of service as described in Appendix D. We found that states varied in the extent to which they require agencies to report hours of services (with the assumption that EMS, by definition, is a 24 hours per day/7 days per week service). Table 2 provides examples of the diverse ways in which states request information on types and levels of service as part of their licensure process and their expectations for 24-hour coverage. Mississippi, for example, requests a detailed explanation of the availability of staffed units during the week and on weekends. This request provides valuable information on available ambulance response capacity. As with the types of service category, we recommend that states adopt the standardized language and categories from NEMSIS to allow for categorization and comparison of rural services.

Members of the expert panel all agreed that a consistent definition of service level elements would provide important data to help state and national policymakers

TABLE 2: Examples of Licensure Elements For Agency Services

State	Hours of Operation	Types of Service	Level of Service
Mississippi	Provide proof of 24-hour continuous coverage with copy of work schedule and level of certification of all employees on work schedule.	a. Ground b. Invalid	*Unit utilization explanation:* provide written explanation of vehicle usage; including weekdays and weekends. Example: 4 permitted vehicles. Daily usage: 2 ALS staffed units with an on-call crew, 1 vehicle is unstaffed and out of service. Weekends: 1 ALS crew and 1 call in crew.
Tennessee	TN Rule 1200-12-1-.16 (2) (c) directs first responder services to "provide services 24 hours a day, 7 days a week, and notify the primary service and dispatching agent of any time period in which the service is not available or staffed for emergency medical response".	a. Standard ground b. Invalid (stretcher transportation, no medical care) c. Volunteer services	*Designate Level:* a. ALS b. BLS c. Special d. Conditional *Class:* a. Primary Emergency Provider b. Licensed Ambulance Transport c. Volunteer Not-for- Profit
West Virginia	Agencies must attest that services for which they are licensed be available to population within service area on a 24-hour continuous basis either by themselves or by written agreement with another licensed EMS agency.	a. 911 Response with transport b. 911 Response without transport c. Medical transport (Convalescent)	*Licensure level:* 1. Non-transporting a. Fire Dept. Rapid Response (BLS) b. Fire Dept. Rapid Response (ALS) c. EMS Rapid Response (BLS) d. EMS Rapid Response (ALS) 2. Transporting a. Ground Ambulance (BLS) b. Ground Ambulance (ALS) c. Ground Ambulance (Critical Care Transport) d. Specialized Multi-patient Medical Transport
Wyoming	WY W.S. 33-36-101, Chapter 2, Section 11 (b) states: "An ambulance service business license holder, other than a non-emergency ambulance service or an air ambulance, shall provide ambulance service 24 hours per day, 7 days per week".	a. Transport b. Non-transport c. Emergency Response d. Non-911 Response e. Medical Transport f. Rescue g. Critical Care h. Paramedicine	*Licensure Level:* a. BLS b. ALS c. Paramedic Intercept d. Specialty Care Transport/ Critical Care Transport

understand the capacity and gaps in rural EMS care across the country. Adoption of the NEMSIS data elements for levels of service would provide a consistent framework to categorize and compare rural EMS agencies.

Consistent with the discussion among members of the expert panel, we recognized that simple lists of staff and/or ambulances do not provide a true understanding of EMS agency response capacity. As discussed in the Mississippi example in Table 2, an agency may have four ambulances but only two are available at the ALS level during the week and one is available on weekends at the ALS level with one unit out of service. We explored different options to collect data on this capacity issue in our recommendations.

Recommendations:

- State EMS authorities should use the NEMSIS data definitions for hours of operation, types of service, level of service, available ambulances, certification/licensure level of ambulances. These data elements would provide consistency in data across the states and allow for a high-level overview of rural EMS services and capacity.
- Location information should be collected for the primary and any satellite/substation locations.
- Data on the number of ambulances available at the primary site and any satellite/substation location by service level should be collected from all agencies.
- Data on response capacity of available ambulances by service level should be consistently collected by state EMS authorities. These data should be collected for the primary site and any satellite/sublocations. One option is to request an explanation of the total number of ambulances and total ambulance usage by days of the week (as is done in the Mississippi agency licensure application). Another option is to list all ambulances available for immediate response at the primary site and any satellite/substation locations by level of service as well as those that are available within 30-60 minutes as on-demand/on-call staff are assembled.

Service Area

The expert panel members were also in agreement that the availability of clearly defined service area information is useful information, but it is not always easily available at the agency level. In our review of agency licensure applications, 39 of the 48 states requested service area information using different geographic indicators. Fourteen states requested service area information by county, four by zip codes, two by fire districts, and one by census tract. Additionally, 24 states required either a written description or a map of the service area, with 13 required both. Primary service area data is collected by 14 states. Seven states also collect secondary service area data. Unlike our findings for personnel type, there were fewer conflicting definitions for the key service area elements.

One panel member commented that from a rural perspective, the state EMS offices often have more detailed information than individual agencies. Global information system (GIS) mapping technology would enhance the ability to identify and understand rural EMS agency service areas and gaps. It would also enable the determination of total primary service area size and population using the GIS layers. Not all panel members thought that having a map of the service area was essential, but all agreed that being able to define the service area for local, regional, and state legislators is important. One panel member provided an example of the value of understanding how service areas may (or may not) overlap with rural ambulance taxing districts for funding purposes.

Recommendations: All EMS agency licensure applications should require service area information to align with NEMSIS reporting elements including:

- Primary and secondary service areas defined by counties, zip codes, and/or, census tracts depending on the level of specificity required (Appendix E). Few states use census tracts or fire districts to define service areas suggesting that counties and zip codes may be a more useful way of defining service areas.

- Data on population size and geographic area of agency service areas which can provide insight into potential coverage and response challenges.
- Maps and/or service areas descriptions identifying major travel routes, geographic barriers (e.g., canyons, mountains, islands, and lakes), or other environmental conditions that may present barriers to the provision of EMS services and negatively impact response time.
- The location of any hospitals, trauma centers, and other emergency response services that may overlap with an individual agency's service area.
- The location of the EMS agency's primary site and any satellite/substations.

Contact Information

As discussed earlier, a previous FMT study on State Flex Program EMS assessment activities[5] found that states struggled to obtain contact information to conduct statewide and/or rural-specific assessments. One state, for example, struggled to assemble the contact information to conduct a statewide survey of all EMS agencies. Another study on identifying of ambulance deserts[6] also struggled to find contact information, data on the location of ambulance services and related substations, and service areas.

Recommendations:

- To address this concern, the study team recommends that agency licensure application request agency contact information (including name, position, phone number, and email address) for all key administrative and clinical personnel (see Appendix F).

LIMITATIONS

Our study was limited to the extent to which we were able to review EMS agency licensure application information available on state EMS websites. As many states are moving to online portals for agency and individual licensure (which are not available to the public), we contacted states to obtain copies of the requested data elements and/or screen shots from their licensure portals. Given the parameters of this study, we were unable to interview state EMS officials and, therefore, relied on the available resources and application forms available online or provided to us by the licensure staff. As such, we cannot comment on the willingness of state EMS officials to explore changes to their licensure applications (which may require legislative or regulatory approval) or their willingness to share these data. At the same time, we recognize that licensure applications and renewals represent snapshots in time and the timeliness of the information depends on the frequency of the renewal process.

CONCLUSION

This policy brief describes three key categories of agency-level data (personnel, service level and types, and service areas) identified by previous studies and our expert panel as essential information to understand rural EMS capacity and gaps at a national level. Considering studies documenting the challenges of identifying contact information in rural EMS agencies, we explored a fourth category of essential agency information – agency and personnel contacts. Given the differences in the way EMS agency information is captured through state licensure processes, these data cannot currently be used to identify and address gaps in rural EMS capacity and services. If states were to adopt these consensus data elements and definitions, state-level EMS licensure data could be aggregated at a national level to provide a valuable resource to support efforts to improve rural EMS capacity across the country.

Based on efforts by NHTSA and NEMSIS to develop workforce and EMS agency data collection process, we offer suggested standardized definitions for consideration by state EMS authorities to enhance their agency licensure application processes and to align their licensure data collection efforts with other states. In addition to providing a national data resource, adoption of these data elements and definitions will enhance state oversight and management of rural EMS services.

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Appendix A: EMS Agency Personnel Data Elements

Element	Definition	Defined by	Recommendations
EMS Personnel's State Licensure ID Number	The state certification/licensure ID number assigned to the personnel member	NEMSIS	Agency licensure applications should include this element for personnel rosters
EMS Personnel Licensure	EMS Personnel's State EMS Certification Licensure Level: • Advanced Emergency Medical Technician (AEMT) • Emergency Medical Technician (EMT) and EMT-Intermediate • Emergency Medical Responder (EMR) • Paramedic • Other Healthcare Professional, and • Other non-Healthcare Professional • Physician • Respiratory Therapist • Student • Critical Care Paramedic • Community Paramedicine • Nurse Practitioner • Physician Assistant • Licensed Practical Nurse • Registered Nurse	NEMSIS	All EMS Agency licensure applications should include this element
EMS Personnel Employment Status	EMS personnel's primary employment status for this agency • Full-time paid (specify hours) • Part-time paid (specify hours) • Unpaid (Volunteer) (specify hours) • Neither an Employee nor a Volunteer (explain)	NEMSIS	As recommended, change volunteer to unpaid
EMS Coverage or Scheduling Status	EMS personnel's work schedule • Regularly scheduled hours (available on-site to respond to calls) • Scheduled on an on-demand or on-call basis		Provides insight into the extent to which individual personnel are part of the regular rotation needed to maintain ambulance coverage

Source: NEMSIS Data Dictionary, v. 3.5.0; March 17, 2023.

Appendix B: Example Personnel Roster

Name (Last/First/MI)	Qualification (EMT, EMT-I, EMT-P, 1st R)	ID number[1]	Expiration Date[2]	Paid				Unpaid (Volunteer)		
				Full-time (Specify Hours)[3]	Part-Time (Specify Hours)[4]	Regularly Schedule[5]	On-demand or On-Call[6]	FTE level of Commitment[7]	Regularly Schedule[5]	On-demand or On-Call[6]

1. State issued licensure or certification number
2. Expiration date of current licensure or certification
3. Full time is defined as 35 hours or more per week. Enter average number of hours worked per week
4. Part time is defined as less than 35 hours per week. Enter average number of hours worked per week
5. Check this box if the individual works a regularly scheduled shift. For example, the individual works Monday through Thursday from 10 PM to 8 AM each day
6. Check this box if the individual does not work a regularly scheduled shift but works on an as needed or on-call basis to provide services
7. Enter the number of hours that the volunteer commits to the agency to provide services

Appendix C: Summary of Staff Capacity/Availability for Paid and Unpaid (Volunteer) Staff

License/Certification Level	Paid				Unpaid (Volunteer)		All Staff	
	# of Full Time Staff1[1]	Combined FTE Hours of Full Time Staff[2]	# of Part Time Staff[3]	Combined FTE Hours of Part Time Staff[4]	# of Unpaid (Volunteer) Staff[5]	Combined FTE Hours of Unpaid (Volunteer) Staff[6]	# of Paid and Unpaid (Volunteer) Staff[7]	Combined FTE Hours for Paid Hours for Paid and Unpaid (Volunteers) Staff[8]
AEMT								
EMT and EMT-Intermediate								
EMR								
Paramedic								
Other Healthcare Professional								
Other non-Healthcare Professional								
Physician								
Respiratory Therapist								
Student								
Critical Care Paramedic								
Community Paramedic								
Nurse Practitioner								
Physician Assistant								
Licensed Practical Nurse								
Registered Nurse								

1. Enter the total number of full-time staff by license/certification level
2. Enter combined FTE Hours for all full-time staff
3. Enter the total number of part-time staff by license/certification level
4. Enter combined FTE Hours for all part-time staff
5. Enter the total number of unpaid (Volunteer) staff by license/certification level
6. Enter combined FTE Hours for all unpaid (volunteer) staff
7. Enter the total number of paid and unpaid (volunteer) staff
8. Enter the combined FTE hours for all paid and unpaid staff

Appendix D: EMS Agency Service Level Data Elements

Element	Definition	Defined by	Recommendations
Hours of Operation	Agency hours of operation - some states require 24/7 coverage and others require proof of backup if 24/7 not provided.	State Offices of EMS	Consider inclusion of a checkbox for non 24/7 coverage as a measure of capacity
Primary Site	Identify primary site of services by name and address		
Satellites/Substations	Identify name and address all satellite or substation locations		
Type of Service	**Primary type of service** provided by agency • 911 Response (Scene) with Transport Capability • 911 Response (Scene) without Transport Capability • ALS Intercept • Hazmat • Medical Transport (Interfacility Transfers) • Rescue • Community Paramedicine • Critical Care (Ground)	NEMSIS	No refinement or modification recommended. As the focus is on ground ambulance agencies eliminated the category of air ambulance. Identify by primary and satellite/substation location.
Level of Service	The level of service which the agency provides EMS care for every request for service (the minimum certification level). This may be the license level granted by the state EMS office. • Advanced Emergency Medical Technician (AEMT) • Emergency Medical Technician - Intermediate • Emergency Medical Responder (EMR) • Emergency Medical Technician (EMT) • Includes: Paramedic, Physician, Critical Care Paramedic, Community Paramedicine, Nurse Practitioner, Physician Assistant, Licensed Practical Nurse, Registered Nurse	NEMSIS	No refinement or modification recommended. Identify by primary and satellite/substation location.
Available Ambulances	Number of available ambulances at primary location and each satellite or substation location	NEMSIS	
Certification/Licensure Level of Ambulances	Certification/licensure level for each ambulance by primary location and each satellite or substation: • Advanced Emergency Medical Technician (AEMT) • Emergency Medical Technician - Intermediate • Emergency Medical Responder (EMR) • Emergency Medical Technician (EMT) • Includes: Paramedic, Physician, Critical Care Paramedic, Community Paramedicine, Nurse Practitioner, Physician Assistant, Licensed Practical Nurse, Registered Nurse	NEMSIS	No refinement or modifications required
Response Capacity	Number of ground ambulance units (capable of transporting one or more litter patients and staffed by one or more EMTs) at the primary site and each satellite or substation by level of service: • Available for immediate response upon notification • Available for response within 30-60 minutes (or longer) after notification	Influenced by NASEMSO - MIECE	Report by primary site and all satellite or substation locations. Request a description of the service level of each ambulance.

Source: NEMSIS Data Dictionary, v. 3.5.0; March 17, 2023.

Appendix E: EMS Agency Service Area Data Elements

Element	Definition	Defined by	Recommendations
Service Area Town(s)	The town(s) in which the agency formally provides services.	State Offices of EMS	All EMS Agency licensure applications should include this element
Service Area Primary Location and All Sub-stations	List the primary location and each substation in the service area.	State Offices of EMS	All EMS Agency licensure applications should include this element
EMS Agency Census Tracts	The US census tracts in which the EMS agency formally provides service. This data element was added to better document the service area of the EMS Agency, particularly in urban areas.	NEMSIS	No refinement or modification recommended
Service Area Zip Codes	The ZIP codes for the EMS Agency's service area.	NEMSIS	No refinement or modification recommended
Service Area County (or Counties)	The county (or counties) within each state for which the agency formally provides service using American National Standards Institute (ANSI), or Federal Information Processing System (FIPS) Codes for States and Counties. ANSI and FIPS codes are numbers which uniquely identify geographic areas with the first two digits identifying the state and the last three identifying the county within the state.	NEMSIS	No refinement or modification recommended
Total Primary Service Area Size	The total square miles in the agency's service area. Some states require EMS agencies to identify both their primary and secondary service area.	NEMSIS	All EMS Agency licensure applications should include this element
Total Service Area Population	The total population in the agency's service area based, if possible, on year 2020 census data.	NEMSIS	All EMS Agency licensure applications should include this element
Written Description or Map of Service Area	Provide a map of the service (with substations using the geographic identifiers described above.	State Offices of EMS	All EMS Agency licensure applications should include this data element

Source: NEMSIS Data Dictionary, v. 3.5.0; March 17, 2023.

Appendix F: Additional EMS Agency Data Elements: Identification and Contact

Element	Definition	Defined by	Recommendations
Agency Unique State ID	The unique ID assigned to the EMS Agency which is associated with all state licensure numbers and information. This may be the EMS Agency name, or a unique number assigned by the state EMS office.	NEMSIS	No modifications needed
Agency Number	The state-assigned provider number of the responding agency. An EMS Agency can have more than one Agency Number within a state. This reflects the ability of an EMS Agency to have a different number for each service type or location (based on state implementation).	NEMSIS	No modifications needed
Agency Formal Name	The formal name of the agency.	NEMSIS	No modifications needed
National Provider ID	The National Provider Identifier issued by CMS. Only EMS Agencies billing for service will have an NPI number.	NEMSIS	No modifications needed
Agency Contact	Contact type within the EMS Agency • EMS Agency Director/Chief/Lead Administrator/ CEO • EMS Assistant Agency Director/Chief/Administrator/CEO • EMS Medical Director • EMS Quality/Performance Improvement Specialist • EMS Training/Education Specialist	NEMSIS	Provide telephone numbers and contact emails.
Agency Contact Name	First, middle, last name, mailing address, county, phone number, email address, and website address of the agency/	NEMSIS	No modifications needed
Sub-station Location(s)	EMS location type: Agency HQ, pre-determined staging area, or other EMS station, GPS coordinates. State Offices of EMS also request the following: Physical and mailing address, phone, fax, name of primary contact and email	NEMSIS	All EMS Agency licensure applications should include this element

Source: NEMSIS Data Dictionary, v. 3.5.0; March 17, 2023.

Appendix G: EMS Expert Panel Members

Name	Title/Position	Organization
Gainor, Dia	Executive Director	NASEMSO
Helle, Scott	Rural Project Manager	KY Office of Rural Health
Joiner, Kelly	Deputy Director	GA Office of EMS and Trauma
Mann, N. Clay	NEMSIS TAC P.I.	NEMSIS Technical Advisory Committee
McCoy, Steve	EMS Director	FL State EMS
Narloch, Lindsey	Project Manager	ND EMS Association
Nudell, Nick	Paramedic Scientist; President	Paramedic Foundation and American Paramedic Association
Wingrove, Gary	President	Paramedic Foundation