

NEMESIS v3 DEMDataSet Guide

Date

November 8, 2022

March 20, 2026 (Reformatted)

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Overview

The NEMESIS v3 data standard includes three data sets: DEMDataSet (snapshot information about EMS agencies), EMSDataSet (EMS patient care reports), and StateDataSet (state reporting requirements and resources).

This guide discusses DEMDataSet. The agency demographic (DEM) file describes various aspects of the reporting Emergency Medical Services (EMS) agency. Each agency demographic file provides important information about the agency's composition, resources, and requirements and an overview of the services delivered. The DEM file specifically identifies the organization type, the service area, allowed procedures, medications, and protocols, personnel, vehicles, devices, and other critical information about the agency. The NEMESIS Technical Assistance Center (TAC) highly recommends that the agency DEM files are compiled by the EMS agency as the authoritative source of information and submitted to the state EMS office. The DEMS files are forwarded to the TAC via web services for entry into the NEMESIS national EMS repository.

Purpose of DEMDataSet

The NEMESIS TAC created the DEMDataSet XML Schema (XSD) to provide a consistent format to share NEMESIS v3 data about EMS responses to incidents. Nationally, there is an increased need for EMS data as a valuable asset that can improve the capability to conduct public health surveillance, assist with resource allocation, evaluate innovative payment models, and support evidence-based EMS delivery of patient care systems. The agency DEM files submitted to the national EMS repository are a vital piece of information that allows software systems to delineate the activity of thousands of EMS agencies across the country that submit millions of EMS records each year.

DEMDataSet at the National Level

Local EMS agencies use field-level “Collect Data” software products to collect the EMS agency demographics (DEM) files and electronic patient care reports (ePCRs). The EMS data are first

sent to the state-level EMS repository, then exported to the national-level EMS repository using “Receive and Process” software. The NEMSIS XSD validates the structure of the data prior to entry in the NEMSIS repository. The validation system checks to ensure that the agency DEM file in the NEMSIS repository. If the agency DEM file is missing, incomplete, or incorrect the ePCR data will fail to enter the NEMSIS repository.

DEMDataset Description in the v3.5 Data Dictionary

The [NEMSIS v3.5.0 Data Dictionary](#) is the key source of information related to the agency demographic data elements in the DEMDataset Grouping and Sections. In the overview description of the NEMSIS Data Dictionary, there is a chart that outlines the composition of DEMDataset and the elements that should be collected for the National EMS Database, and the data elements that should be considered for use at the state and local levels depending on each state or local EMS system’s need.

DEMDataset Sections

There are ten subsections within the DEMDataset. Each subsection contains information about a different aspect of the EMS agency. The data elements in the DEM subsections are labeled as national, state, or neither. If the data element is labeled as national, it must be collected at the local EMS agency level, submitted to the state, then submitted to the national level at the NEMSIS TAC. If the data element is labeled as state only, it may also be labeled as recommended usage to be collected at the state, but is not required at the national level. If the data element is not labeled as a national or state, it may be labeled as optional usage. If the data element is related to a configuration section, it will be labeled as mandatory usage. In total, there are 152 elements in the DEMDataset section.

DEM Elements	153
Mandatory	25
Required	4
Recommended	41
Optional	83

Each element has a usage level that indicates when the data element is expected to be collected:

- Mandatory = Must be completed and does not allow for NOT values.
- Required = Must be completed and allows NOT values.
- Recommended = Does not need to be completed and allows NOT values.
- Optional = Does not need to be completed and does not allow for NOT values.

**NOT values will not be covered in this document, but more information is available in the NEMSIS Data Dictionary and at [NEMSIS v3 Pertinent Negatives \(PN\) and Not Values \(NV\) Usage](#).*

Elements in the DEMDataset Sections

There is an Excel spreadsheet on the NEMSIS website titled [v3 Summary of Changes \(xlsx\)](#). The spreadsheet lists all the v3.5 National and State elements, and was used to create the charts below describing the ten subsections of the DEMDataset. The spreadsheet was filtered on the element numbers, element names, distinction as a national, state, or optional element, and usage. The only national elements assigned to DEM elements are in the dAgency and dConfiguration sections.

The DEMDataset subsections are detailed below. The sections include:

dAgency	dContact	dConfiguration	dLocation	dVehicle
dPersonnel	dDevice	dFacility	dCustomResults	dCustomConfiguration

dAgency Elements Section

Element Number	Element Name	Usage
dAgency.01	EMS Agency Unique State ID	Mandatory
dAgency.02	EMS Agency Number	Mandatory
dAgency.03	EMS Agency Name	Recommended
dAgency.04	EMS Agency State	Mandatory
dAgency.05	EMS Agency Service Area States	Mandatory
dAgency.06	EMS Agency Service Area County(ies)	Mandatory
dAgency.07	EMS Agency Census Tracts	Required
dAgency.08	EMS Agency Service Area ZIP Codes	Required
dAgency.09	Primary Type of Service	Mandatory
dAgency.10	Other Types of Service	Recommended
dAgency.11	Level of Service	Mandatory
dAgency.12	Organization Status	Mandatory
dAgency.13	Organizational Type	Mandatory
dAgency.14	EMS Agency Organizational Tax Status	Mandatory
dAgency.15	Statistical Calendar Year	Recommended
dAgency.16	Total Primary Service Area Size	Recommended
dAgency.17	Total Service Area Population	Recommended
dAgency.18	911 EMS Call Center Volume per Year	Recommended
dAgency.19	EMS Dispatch Volume per Year	Recommended
dAgency.20	EMS Patient Transport Volume per Year	Recommended
dAgency.21	EMS Patient Contact Volume per Year	Recommended
dAgency.22	EMS Billable Contact Volume per Year	Recommended
dAgency.23	EMS Agency Time Zone	Optional
dAgency.24	EMS Agency Daylight Savings Time Use	Optional
dAgency.25	National Provider ID Number	Required
dAgency.26	Fire Department ID Number	Required
dAgency.27	Licensed Agency	Optional

dContact Elements Section

Element Number	Element Name	Usage
dContact.01	Agency Contact Type	Recommended
dContact.02	Agency Contact Last Name	Recommended
dContact.03	Agency Contact First Name	Recommended
dContact.04	Agency Contact Middle Name/Initial	Optional
dContact.05	Agency Contact Address	Recommended
dContact.06	Agency Contact City	Recommended
dContact.07	Agency Contact State	Recommended
dContact.08	Agency Contact SZIP Code	Recommended
dContact.09	Agency Contact Country	Optional
dContact.10	Agency Contact Phone Number	Recommended
dContact.11	Agency Contact Email Address	Recommended
dContact.12	EMS Agency Contact Web Address	Recommended
dContact.13	Agency Medical Director Degree	Recommended
dContact.14	Agency Medical Director Board Certification Type	Recommended
dContact.15	Medical Director Compensation	Optional
dContact.16	EMS Medical Director Board Certified/Eligible	Optional

dConfiguration Elements Section

Element Number	Element Name	Usage
dConfiguration.01	State Associated with this Configuration	Mandatory
dConfiguration.06	EMS Certification Levels Permitted to Perform Each Procedure	Mandatory
dConfiguration.07	EMS Agency Procedures	Mandatory
dConfiguration.08	EMS Certification Levels Permitted to Administer Each Medication	Mandatory
dConfiguration.09	EMS Agency Medications	Mandatory
dConfiguration.10	EMS Agency Protocols	Mandatory
dConfiguration.11	EMS Agency Specialty Service Capability	Recommended
dConfiguration.12	Billing Status	Optional
dConfiguration.13	Emergency Medical Dispatch (EMD) Provided to EMS Agency Service Area	Mandatory
dConfiguration.14	EMD Vendor	Recommended
dConfiguration.16	Crew Call Sign	Mandatory
dConfiguration.17	Dispatch Center (CAD) Name or ID	Optional
dConfiguration.15	Patient Monitoring Capability	Recommended

dLocation Elements Section

Element Number	Element Name	Usage
dLocation.01	EMS Location Type	Optional
dLocation.02	EMS Location Name	Optional
dLocation.03	EMS Location Number	Optional
dLocation.04	EMS Location GPS	Optional
dLocation.05	EMS Location US National Grid Coordinates	Optional
dLocation.06	EMS Location Address	Optional
dLocation.07	EMS Location City	Optional
dLocation.08	EMS Location State	Optional
dLocation.09	EMS Station or Location ZIP Code	Optional
dLocation.10	EMS Location County	Optional
dLocation.11	EMS Location Country	Optional
dLocation.12	EMS Location Phone Number	Optional

All elements in the dLocation section are designated as optional usage. They are not required for the National EMS Database, but may be considered for use at the state and local levels, depending on each state or local EMS system's needs.

dVehicle Elements Section

Element Number	Element Name	Usage
dVehicle.01	Unit/Vehicle Number	Recommended
dVehicle.02	Vehicle Identification Number	Optional
dVehicle.03	EMS Unit Call Sign	Optional
dVehicle.04	Vehicle Type	Recommended
dVehicle.05	Crew State Certification/Licensure Levels	Optional
dVehicle.06	Number of Each EMS Personnel Level on Normal 911 Ambulance Response	Optional
dVehicle.07	Number of Each EMS Personnel Level on Normal 911 Response (Non-Transport) Vehicle	Optional
dVehicle.08	Number of Each EMS Personnel Level on Normal Medical (Non-911) Transport Ambulance	Optional
dVehicle.09	Vehicle Initial Cost	Optional
dVehicle.10	Vehicle Model Year	Recommended
dVehicle.11	Year Miles/Kilometers Hours Accrued	Optional
dVehicle.12	Annual Vehicle Hours	Optional
dVehicle.13	Annual Vehicle Miles/Kilometers	Optional

dPersonnel Elements Section

Element Number	Element Name	Usage
dPersonnel.01	EMS Personnel's Last Name	Recommended
dPersonnel.02	EMS Personnel's First Name	Recommended
dPersonnel.03	EMS Personnel's Middle Name/Initial	Recommended
dPersonnel.04	EMS Personnel's Mailing Address	Optional
dPersonnel.05	EMS Personnel's City of Residence	Optional
dPersonnel.06	EMS Personnel's State	Optional
dPersonnel.07	EMS Personnel's ZIP Code	Optional
dPersonnel.08	EMS Personnel's Country	Optional
dPersonnel.09	EMS Personnel's Phone Number	Optional
dPersonnel.10	EMS Personnel's Email Address	Optional
dPersonnel.11	EMS Personnel's Date of Birth	Recommended
dPersonnel.13	EMS Personnel's Race	Recommended
dPersonnel.14	EMS Personnel's Citizenship	Optional
dPersonnel.15	EMS Personnel's Highest Educational Degree	Optional
dPersonnel.16	EMS Personnel's Degree Subject/Field of Study	Optional
dPersonnel.17	EMS Personnel's Motor Vehicle License Type	Optional
dPersonnel.18	EMS Personnel's Immunization Status	Optional
dPersonnel.19	EMS Personnel's Immunization Year	Optional
dPersonnel.20	EMS Personnel's Foreign Language Ability	Optional
dPersonnel.21	EMS Personnel's Agency ID Number	Optional
dPersonnel.22	EMS Personnel's State of Licensure	Recommended
dPersonnel.23	EMS Personnel's State's Licensure ID Number	Recommended
dPersonnel.24	EMS Personnel's State EMS Certification Licensure Level	Recommended
dPersonnel.25	EMS Personnel's State EMS Current Certification Date	Optional
dPersonnel.26	EMS Personnel's Initial State's Licensure Issue Date	Optional
dPersonnel.27	EMS Personnel's Current State's Licensure Expiration Date	Optional
dPersonnel.28	EMS Personnel's National Registry Number	Optional
dPersonnel.29	EMS Personnel's National Registry Certification Level	Optional
dPersonnel.30	EMS Personnel's Current National Registry Expiration Date	Optional
dPersonnel.31	EMS Personnel's Employment Status	Recommended
dPersonnel.32	EMS Personnel's Employment Status Date	Recommended
dPersonnel.33	EMS Personnel's Hire Date	Optional
dPersonnel.34	EMS Personnel's Primary EMS Job Role	Recommended
dPersonnel.35	EMS Personnel's Other Job Responsibilities	Recommended
dPersonnel.36	EMS Personnel's Total Length of Service in Years	Optional
dPersonnel.37	EMS Personnel's Date Length of Service Documented	Optional
dPersonnel.38	EMS Personnel's Practice Level	Optional
dPersonnel.39	Date of Personnel's Certification or Licensure for Agency	Optional
dPersonnel.40	EMS Personnel's Sex	Recommended

dDevice Elements Section

Element Number	Element Name	Usage
dDevice.01	Medical Device Serial Number	Optional
dDevice.02	Medical Device Name or ID	Optional
dDevice.03	Medical Device Type	Optional
dDevice.04	Medical Device Manufacturer	Optional
dDevice.05	Medical Device Model Number	Optional
dDevice.06	Medical Device Purchase Date	Optional

All elements in the dDevice section are designated as optional usage. They are not required for the National EMS Database, but may be considered for use at the state and local levels, depending on each state or local EMS system's needs.

dFacility Elements Section

Element Number	Element Name	Usage
dFacility.01	Type of Facility	Optional
dFacility.02	Facility Name	Optional
dFacility.03	Facility Location Code	Optional
dFacility.04	Hospital Designations	Optional
dFacility.05	Facility National Provider Identifier	Optional
dFacility.06	Facility Room, Suite, or Apartment	Optional
dFacility.07	Facility Street Address	Optional
dFacility.08	Facility City	Optional
dFacility.09	Facility State	Optional
dFacility.10	Facility ZIP Code	Optional
dFacility.11	Facility County	Optional
dFacility.12	Facility Country	Optional
dFacility.13	Facility GPS Location	Optional
dFacility.14	Facility US National Grid Coordinates	Optional
dFacility.15	Facility Phone Number	Optional

All elements in the dFacility section are designated as optional usage. They are not required for the National EMS Database, but may be considered for use at the state and local levels depending on each state or local EMS system's need.

dCustomResults Elements Section

Element Number	Element Name	Usage
dCustomResults.01	Custom Data Element Result	Mandatory
dCustomResults.02	Custom Data Element ID Referenced	Mandatory
dCustomResults.03	CorrelationID of DemographicReport Element Group	Optional

All elements in the dCustomResults and dCustomConfiguration sections are designated as either mandatory or optional usage. They are mandatory if the state implements custom elements, but not required for the National EMS Database. Custom elements may be considered for use at the state and local levels, depending on each state or local EMS system's needs.

dCustomConfiguration Elements Section

Element Number	Element Name	Usage
dCustomConfiguration.01	Custom Data Element Title	Mandatory
dCustomConfiguration.02	Custom Definition	Mandatory
dCustomConfiguration.03	Custom Data Type	Mandatory
dCustomConfiguration.04	Custom Data Element Recurrence	Mandatory
dCustomConfiguration.05	Custom Data Element Usage	Mandatory
dCustomConfiguration.06	Custom Data Element Potential Values	Optional
dCustomConfiguration.07	Custom Dat Element Potential NOT Values (NV)	Optional
dCustomConfiguration.08	Custom Data Element Potential Pertinent Negative Values (PN)	Optional
dCustomConfiguration.09	Custom Data Element Grouping ID	Optional

DEMDataset Completeness and Accuracy

There are instances when the agency DEM files are missing, incomplete, or incorrect and the ePCR data will fail to enter the NEMSIS repository. Within the v3.5 Data Standard there are 22 National Mandatory and Required elements that must be completed for the agency DEM file.

Mandatory Elements must have a value.

The NEMSIS Data Dictionary indicates the element can be left blank if the information cannot be completed for the **Required Elements**. Required Elements allow for the NOT Values (NV) code = 7701003. *"If a data element was unintentionally left blank, the EMS software should auto-populate it with "Not Recorded."*

V3.5 Mandatory (M) and Required (R) Elements for the Agency Dem File
<u>dAgency.01 – EMS Agency Unique State ID (M)</u>
<u>dAgency.02 – EMS Agency Number (M)</u>
<u>dAgency.04 – EMS Agency State (M)</u>
<u>dAgency.05 – EMS Agency Service Area States (M)</u>
<u>dAgency.06 – EMS Agency Service Area County(ies) (M)</u>
<u>dAgency.07 – EMS Agency Census Tract (R)</u>
<u>dAgency.08 – EMS Agency Service Area ZIP Codes (R)</u>
<u>dAgency.09 – Primary Type of Service (M)</u>
<u>dAgency.11 – Level of Service (M)</u>
<u>dAgency.12 – Organization Status (M)</u>
<u>dAgency.13 – Organizational Type (M)</u>

<u>dAgency.14 – EMS Agency Organizational Tax Status (M)</u>
<u>dAgency.25 – National Provider Identifier (R)</u>
<u>dAgency.26 – Fire Department ID Number (R)</u>
<u>dConfiguration.01 – State Associated with the Certification/Licensure Levels (M)</u>
<u>dConfiguration.06 – EMS Certification Levels Permitted to Perform Each Procedure (M)</u>
<u>dConfiguration.07 – EMS Agency Procedures (M)</u>
<u>dConfiguration.08 – EMS Certification Levels Permitted to Administer Each Medication (M)</u>
<u>dConfiguration.09 – EMS Agency Medications (M)</u>
<u>dConfiguration.10 – EMS Agency Protocols (M)</u>
<u>dConfiguration.13 – Emergency Medical Dispatch (EMD) Provided to EMS Agency Service Area (M)</u>
<u>dConfiguration.16 – Crew Call Sign (M)</u>

Common Reasons for Submission Failures

The most common reasons for submission failures are:

- The DEM files fail for one reason: XML schema/Schematron validation error.
- The EMS files fail for two reasons: XML schema/Schematron validation error OR non-matching dAgency.01, dAgency.02, or dAgency.04.

Data submissions from the state will fail at the national level when there are inconsistencies between the DEM and ePCR values of dAgency.01, dAgency.02, and dAgency.04.

Here are two common examples of inconsistencies between DEM and ePCR files that cause failures:

DEM file information:		ePCR file information:
dAgency.01 = 018		dAgency.01 = 018
dAgency.02 = 018		dAgency.02 = 0180
dAgency.04 = 24		dAgency.04 = 38

DEM file information:		ePCR file information:
dAgency.01 = 4321		dAgency.01 = 1234
dAgency.02 = 1234		dAgency.02 = 1234
dAgency.04 = 52		dAgency.04 = 61

The definitions for the elements dAgency.01, dAgency.02, and dAgency.04 are:

- **dAgency.01- EMS Agency Unique State ID:** The unique ID assigned to the EMS Agency is associated with all state licensure numbers and information.
- **dAgency.02 – EMS Agency Number:** The state-assigned provider number of the responding agency. *Depending on the services provided by an 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).*
- **dAgency.04 - EMS Agency State:** The state/territory that assigned the EMS agency number.

To avoid failure of data submissions to the national repository, DEM and ePCR values for elements dAgency.01, dAgency.02, and dAgency.04 must be consistent.

Additional v3.5 Technical Guides

For more information about Collect Data software and compliance, please review the [v3.5 Compliance Process- “Collect Data” Software](#).

For more information about the technical structure of the DEM files, review [Schematron rule file for DEMDataSet](#).

Conclusion

The DEMDataSet provides a format in which ePCR data can be collected in a consistent and standardized format, which facilitates improved local, state, and national data analysis.

The information provided in this document is sourced from multiple locations on the [NEMESIS website](#) and is compiled here as a summary resource related to the Agency Demographic (DEM) File.

If you have questions or need assistance, please contact the TAC at support@nemsis.atlassian.net.