



National EMS Information System

NHTSA Version 2.2.1 EMS Dataset Compliance Policy

Purpose:

The purpose of this document is to define “Compliance” with respect to the NHTSA Version 2.2.1 Dataset. The term compliance (or “compliant”) may only be used by an EMS data system or EMS software vendor if the terms of this policy are met in full. No marketing of any EMS data product as being compliant with the NHTSA version 2.2.1 dataset may be done, except as defined in this policy.

History and Background:

The National EMS Information System Project (NEMSIS) has revised the National Highway Traffic Safety Administration’s (NHTSA) Emergency Medical Services (EMS) Dataset. The NHTSA Version 2.2.1 Dataset defines over 400 data elements which are important to the documentation and description of EMS systems and patient care. With any use of data at the EMS system or patient care level, the standard definitions, variables, and codes associated with each of the NHTSA Version 2.2.1 data elements are critical.

The NEMSIS project has four goals:

1. Implement an electronic EMS data system within each local EMS system that can collect and use data based on the NHTSA Version 2.2.1 dataset standard.
2. Implement a state EMS data system in every state and territory which can receive and use a portion of the local EMS data via the XML standard.
3. Implement a national EMS database which can receive and use a portion of the state and territorial EMS data via the XML standard.
4. Establish a mechanism for data to move between local, state, and national EMS data systems using the XML standard.

The NHTSA Version 2.2.1 EMS Dataset is composed of the following components:

- * The EMS Dataset
- * The Demographic Dataset
- * The XML Standard

The EMS dataset consists of a group of EMS data elements which describe or allow for the documentation of an EMS event. The Demographic dataset consists of a group of data elements which describe and define an EMS system and all of its components.

Within the NHTSA Version 2.2.1 Dataset Dictionary, documentation on each data element is provided to define the data element, list the variables associated with the data element, and list the appropriate codes associated with each variable.



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Data element E02_04 provides an example of this structure.

Data Element:	E02_04: Type of Service Required
Data Element Definition:	The type of service or category of service requested of the EMS service responding for this specific EMS incident.
Data Element Variable and Code:	30 = 911 Response (Scene) 35 = Intercept 40 = Interfacility Transfer 45 = Medical Transport 50 = Mutual Aid 55 = Standby

The NHTSA Version 2.2.1 XML standard defines how data is moved from one data system to another (imported or exported). Using the XML architecture and the XSD validation files, data can easily be moved:

- * Between 2 EMS data systems
- * Between the local EMS data system and the state EMS data system
- * Between the state EMS data system and the national EMS database

An EMS data system is defined as any software associated with Emergency Medical Services which provides a mechanism to collect, document, analyze, or otherwise store and use data associated with an EMS event. This includes but is not limited to EMS dispatch data systems, EMS medical device data systems, EMS patient care documentation systems, EMS billing systems, and EMS quality management or reporting systems.

Policy:

Any EMS data system can be labeled as “Compliant” at the “Silver” or “Gold” level with the NHTSA Version 2.2.1 Dataset when the following conditions have been confirmed by the National EMS Information System (NEMSIS) Technical Assistance Center:

1. The NHTSA Version 2.2.1 EMS Dataset is used within the EMS data system as defined.
2. The NHTSA Version 2.2.1 Demographic Dataset is used within the EMS data system as defined.
3. The NHTSA Version 2.2.1 XML standard is used to at a minimum export data from the EMS data system as defined.
4. A structure within the EMS data system is in place to monitor and control changes within the EMS data system which would lead to inconsistency with the NHTSA Version 2.2.1 Dataset.



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Procedure:

An EMS data system can be labeled as “Compliant” at the “Silver” or “Gold” level with the NHTSA Version 2.2.1 EMS Dataset by meeting the following conditions:

Silver Compliance

1. EMS Dataset and Demographic Dataset

- * The EMS Software Developer must identify which NHTSA Version 2.2.1 Demographic and EMS Dataset data elements will be included in the EMS Software. Not every NHTSA Version 2.2.1 EMS and Demographic data element has to be used by an EMS system but if the data element is selected for use, it must be available as defined for use.
- * Minimally, all data elements noted as “National Elements” must be included in the software. Only the “National Elements” and any other NHTSA Version 2.2.1 data elements will be evaluated for Silver Compliance.
- * No translation of the NHTSA Version 1 EMS Dataset into the NHTSA Version 2.2.1 EMS Dataset is permitted since definitions, variables, and codes are often inconsistent between the two versions.
- * Additional data elements outside of the NHTSA Version 2.2.1 EMS Dataset may be collected either by using the E23_09 Research Survey Fields (along with E23_11 Research Survey Field Title) or by creating unique data elements outside the NHTSA Version 2.2.1 Dataset¹.
- * An EMS data system may extend the variables associated with any NHTSA Version 2.2.1 EMS Data Element by using the existing definitions, variables, and codes in such a way so that any change in a data element variable and code can be collapsed back to a defined, acceptable code for data storage and transmission within the XML standard.

2. XML Standard

- * An EMS data system must have the capability to export data using the NHTSA Version 2.2.1 XML Standard. This standard is defined by the ability to export any EMS event and/or demographic record from the EMS data system using XML with validation using the NHTSA Version 2.2.1 XSDs.
- * All State EMS Data Systems must have the capability of importing data using the NHTSA Version 2.2.1 XML Standard.
- * It is recommended, but not required, that local EMS data systems have the capability of importing data into the system using the NHTSA Version 2.2.1 XML standard.

¹ If unique data elements are created outside of the NHTSA V2.2.1 Dataset, those unique data elements will not be able to be transmitted using the NHTSA V2.2.1 XML standard. To create and transmit data elements which fall outside of the defined NHTSA V2.2.1 Dataset, use the Research data elements (E23_09 and E23_11) within the existing NHTSA V2.2.1 Dataset.



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Gold Compliance

1. EMS Dataset and Demographic Dataset

- * Every data element contained in the NHTSA Version 2.2.1 EMS Dataset must be available for use in the EMS data system. Not every NHTSA Version 2.2.1 EMS and Demographic data element has to be used by an EMS system but if the data element is selected for use, it must be available as defined for use.
- * No translation of the NHTSA Version 1 EMS Dataset into the NHTSA Version 2.2.1 EMS Dataset is permitted since definitions, variables, and codes are often inconsistent between the two versions.
- * Additional data elements outside of the NHTSA Version 2.2.1 EMS Dataset may be collected either by using the E23_09 Research Survey Fields (along with E23_11 Research Survey Field Title) or by creating unique data elements outside the NHTSA Version 2.2.1 Dataset².
- * An EMS data system may extend the variables associated with any NHTSA Version 2.2.1 EMS Data Element by using the existing definitions, variables, and codes in such a way so that any change in a data element variable and code can be collapsed back to a defined, acceptable code for data storage and transmission within the XML standard.

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Documentation:

EMS data systems wishing to label their EMS Data System or market their product(s) as “Silver Compliant” or “Gold Compliant” with the NHTSA Version 2.2.1 EMS dataset must provide the following documentation to the National EMS Information System Technical Assistance Center (NEMSIS TAC) for validation:

- * Sample XML files (from each product line) compliant with the NHTSA Version 2.2.1 XML generated using test cases provided by the NEMSIS TAC. The XML files will be validated by the NEMSIS Technical Assistance Center based on the specific test cases for the level of Compliance desired, as defined in the NHTSA Version 2.2.1 dataset (EMS and Demographic).
- * Documentation of a protective measure within the EMS data system software to assure that the NHTSA Version 2.2.1 dataset can only be altered in a way which will allow all definitions, variables, and codes to be maintained as defined.

Validation and Marketing:

The NEMSIS Technical Assistance Center (NEMSIS TAC) offers assistance to states, territories, and EMS software developers to become compliant with the NHTSA Version 2.2.1 EMS Dataset. Documentation, as defined in the Documentation section above, may be submitted to the NEMSIS TAC for validation. Once the XML files and software documentation have been reviewed and validated, the NEMSIS TAC will post the EMS data system software type (state or local), name, product, platform, and version on the NEMSIS website at www.nemsis.org as meeting the compliance standards associated with the NHTSA Version 2.2.1 Dataset.

Disclaimer:

The NEMSIS TAC can only verify the files and documentation as provided by the EMS software developers. Until specific test cases can be created and used in this validation process, it is important to understand that EMS software developers are being taken at their word that the files and documentation which is submitted is truly representative of the EMS software being validated. The NEMSIS TAC reserves the right to remove any EMS Software which has obtained NEMSIS Compliance through this policy from the list of Compliant EMS Software, maintained on the official NEMSIS website, if it is determined that the EMS Software provided false information or subsequently makes changes to the software version after Compliance status has been granted which results in the software falling out of Compliance with the NEMSIS standards.

Any EMS system, state, or territory using this compliance validation as a part of a contract pricing or request for proposal should either request additional documentation from the EMS software developer (specifically of test cases which have been used in the validation of the software) or test the software using a series of test cases reflective of the EMS data elements which will be implemented by the EMS system.