NEMSIS V3 State Data Set Builder: State Data Manager User Guide

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Overview

This guide helps state data managers use the NEMSIS V3 State Data Set Builder to generate State Data Set files.

Purpose

EMS agencies and their software vendors must have certain information about their state's EMS practice requirements available in order to accurately configure their patient care reporting software to meet state requirements. The NEMSIS Technical Assistance Center (NEMSIS TAC) has created a StateDataSet XML Schema (XSD) to provide a consistent format in which to share NEMSIS V3 state-specific information. Vendors are not required to support StateDataSet in their software at this time. However, StateDataSet has advantages over other methods of conveying state-specific information:

- StateDataSet files can be validated using the NEMSIS StateDataSet XSD.

- StateDataSet files can be easily processed by systems.

- StateDataSet files can be easily viewed online in human-readable form.

- StateDataSet is based directly on the core NEMSIS V3 XSDs.

StateDataSet files contain the following information regarding a state or territory:

- Custom Data Elements

- State Required Elements

- State Certification/Licensure Levels

- Procedures Permitted by the State

- Medications Permitted by the State

- Protocols Permitted by the State

- EMS Agencies

- Facilities (hospitals, etc.)

Vendors of state-level systems are encouraged to build into their systems the ability to generate StateDataSet files. Vendors of local-level systems are encouraged to build into their systems the ability to process StateDataSet files as part of configuration.

Since support for StateDataSet is not mandatory, the NEMSIS TAC also provides a web-based State Data Set Builder. If your state vendor supports the generation of StateDataSet files from your state system, you do not need to use the NEMSIS State Data Set Builder. However, the NEMSIS V3 State Data Set Builder is available to all states free of charge to help promote the adoption of StateDataSet as the best way to ensure accurate and consistent configuration of all EMS software across your state and as a quick way to distribute updated information to all software across the state when changes occur.

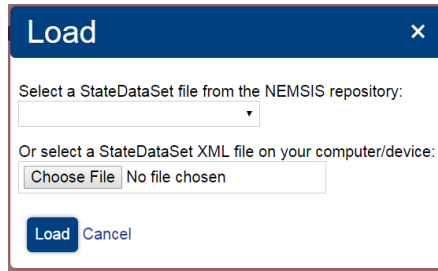## Accessing the State Data Set Builder

The NEMSIS V3 State Data Set Builder is available online at www.nemsis.org/media/statedatasetbuilder. It is web-based. It works in all currently supported versions of web browsers. (For Internet Explorer, version 9 or higher is required; version 10 or higher is recommended.)

The State Data Set Builder is intended to be used on a desktop computer. You need to be able to save the StateDataSet file that it generates.

Loading an Existing StateDataSet File

If you are creating your StateDataSet file for the first time, you may skip this step. However, if you have previously built a file and wish to update it (or if another state or territory similar to yours has already published a StateDataSet file), you can save time and effort by loading the available file and adjusting it to fit your needs.

To load an existing StateDataSet file, select the Load button. The Load dialog will appear.
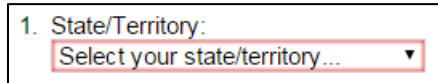
You may select an existing StateDataSet file from the NEMSIS repository (only those states that have a published StateDataSet file may be selected) or you may select a StateDataSet file that is on your own computer. Select the Load button for your chosen option, and the file will be loaded into the State Data Set builder for editing.

If the file you selected is not a valid StateDataSet file, the State Data Set Builder will display a message indicating that the file is invalid.

Building a State Data Set

Whether you have chosen to load an existing StateDataSet file or start building your State Data Set from scratch, you generally may proceed through the nine sections of your State Data Set in any order. If your state does not regulate or provide resources for a particular section, you may skip it.

1. State/Territory

This step must be completed before you can save your StateDataSet file. Select your state in the drop-down list. For example, if you're building a State Data Set for the state of Alabama, select Alabama.

2. Custom Data Elements

If your state has custom data elements, you can set them up here. For more information about custom data elements, see the dCustomConfiguration and eCustomConfiguration sections of the NEMSIS V3 Data Dictionary. (Note that Custom Element ID does not appear in the NEMSIS V3 Data Dictionary, but it is an attribute of dCustomConfiguration.CustomGroup and eCustomConfiguration.CustomGroup in the NEMSIS V3 XML Schema (XSD). It is the unique identifier you assign to a custom element, and it is used to connect custom element results to a custom element definition.)

Because the potential values list for a custom element may be large, the State Data Set Builder supports the ability to paste custom element potential value information copied from a spreadsheet. The spreadsheet should have the following columns (in order, starting with the first column):

    A.   Custom Data Element Potential Value (Code)
    B.   NEMSIS Code
    C.   Description

If your spreadsheet has a header row, do not copy the header row. If you do not have data for a particular column, include the column in the spreadsheet but leave it blank. When you do not have information for an individual cell, leave it blank.

Please consult the NEMSIS Data Dictionary pages for dCustomConfiguration.06 and eCustomConfiguration.06 for information about custom element potential value requirements. Invalid data will be pasted, but it will be highlighted in red, and you will need to correct it before you can save your data.

A spreadsheet template is available by selecting "More information…" below the Potential Values list in a custom data element.

3. State Required Elements

If your state requires or recommends that certain data elements be reported by all agencies within the state, you can create that list of elements here. For more information, see the dState and eState sections of the NEMSIS V3 Data Dictionary. You may wish to select one of the following buttons as an initial starting point:

- [All] selects all data elements.

- [State Recommended] selects all data elements that the NEMSIS TAC recommends to be collected at the state level (including all national elements).

- [National] selects all national elements.

- [None] clears any existing selection of elements.

Once you have chosen one of the above options as a starting point, you can manually select or deselect individual data elements as needed.

Note: The NEMSIS TAC strongly recommends selecting all of the national elements. You may deselect a national element; its checkbox will become highlighted with a red outline as a warning, but you will still be able to save your StateDataSet file.

Q: What if my state requires elements that are not on the list?

You will need to define those elements as custom elements. Within the setup of each custom element, you can select whether it is mandatory, required, recommended, or optional within your state.

4. State Certification/Licensure Levels

If your state recognizes, certifies, or licenses certain levels of EMS personnel (most states do), you can select those levels here. For more information, see dConfiguration.02 in the NEMSIS V3 Data Dictionary. If your state implements only the 2009 National EMS Education Standards, you may select the [National Education Standards] button to select the 2009 EMR, EMT, AEMT, and Paramedic levels.

Q: What if my state has other certification/licensure levels that are not on the list?

You have two standards-compliant options:

A. If a certification/licensure level is sufficiently similar to an existing level on the standard list, then select that level on the list. Instruct providers to use that level as the standard equivalent to your non-standard level.

B. If option A is not suitable, then you will need to define custom elements that extend the following NEMSIS elements in your state (depending on which elements you require to be reported):

- dAgency.11 Level of Service

- dConfiguration.02 State Certification/Licensure Levels

- dConfiguration.06 EMS Certification Levels Permitted to Perform Each Procedure

- dConfiguration.08 EMS Certification Levels Permitted to Administer Each Medication

- dVehicle.05 Crew State Certification/Licensure Levels

- dPersonnel.24 EMS Personnel's State EMS Certification Licensure Level

- eResponse.15 Level of Care of This Unit

- eCrew.02 Crew Member Level

- ePayment.42 Specialty Care Transport Care Provider

- eProcedures.10 Role/Type of Person Performing the Procedure

- eMedications.10 Role/Type of Person Administering Medication

In the setup of each custom element, you will need to supply a value and label for each non-standard certification/licensure level, as well as the NEMSIS code for the national standard level that is most similar. Data submitted to your state from local EMS agencies will be augmented with the custom element values; however, only the national elements and national standard values will be submitted to the National EMS Database by your state system.

5. Procedures Permitted by the State

Before completing this section, you should complete State Certification/Licensure Levels.

If your state regulates which procedures can be performed by each level of EMS personnel, you can select those procedures for each level here.

For each procedure, you may select the certification/licensure levels permitted to perform that procedure, or you may select the All button for that procedure to select all levels. Similarly, for each certification/licensure level, you may select the All button to indicate that all procedures on the list can be performed by that level. Then, you can manually select or deselect individual procedures as needed.

The State Data Set Builder uses the NEMSIS Suggested List for procedures. However, you may manually enter additional SNOMED procedure codes at the bottom of the list.

6. Medications Permitted by the State

Before completing this section, you should complete State Certification/Licensure Levels.

If your state regulates which medications can be administered by each level of EMS personnel, you can select those medications for each level here.

For each medication, you may select the certification/licensure levels permitted to administer that medication, or you may select the All button for that medication to select all levels. Similarly, for each certification/licensure level, you may select the All button to indicate that all medications on the list can be administered by that level. Then, you can manually select or deselect individual medications as needed.

The State Data Set Builder uses the NEMSIS Suggested List formedications. However, you may manually enter additional RxNorm medication codes at the bottom of the list.

7. Protocols Permitted by the State

Protocols Permitted by the State

A list of all of the protocols permitted by the state.

Select: All None

Code	Description
9914001	Airway
9914003	Airway-Failed
9914005	Airway-Obstruction/Foreign Body
9914007	Airway-Rapid Sequence Induction (RSI-Paralytic)
9914009	Airway-Sedation Assisted (Non-Paralytic)
9914011	Cardiac Arrest-Asystole
9914201	Cardiac Arrest-Determination of Death / Withholding Resuscitative Efforts
9914169	Cardiac Arrest-Do Not Resuscitate
9914013	Cardiac Arrest-Hypothermia-Therapeutic
9914019	Cardiac Arrest-Post Resuscitation Care
9914015	Cardiac Arrest-Pulseless Electrical Activity
9914171	Cardiac Arrest-Special Resuscitation Orders
9914017	Cardiac Arrest-Ventricular Fibrillation/ Pulseless Ventricular Tachycardia
9914021	Environmental-Altitude Sickness

If your state regulates which protocols providers are permitted to use, you can select those protocols here. Your state may not officially regulate protocols but may promote, suggest, or otherwise advocate the use of certain protocols. In this situation, you may choose which protocols to list, based upon which protocols you wish to track usage using the NEMSIS V3 dataset.

Q: What if my state has other protocols that are not on the list?

You have two standards-compliant options:

A. If a protocol is sufficiently similar to an existing protocol on the standard list, then select that protocol on the list. Instruct providers to use that protocol as the standard equivalent to your state's protocol.

B. If option A is not suitable, then you will need to define custom elements that extend the following NEMSIS elements in your state (depending on which elements you require to be reported):

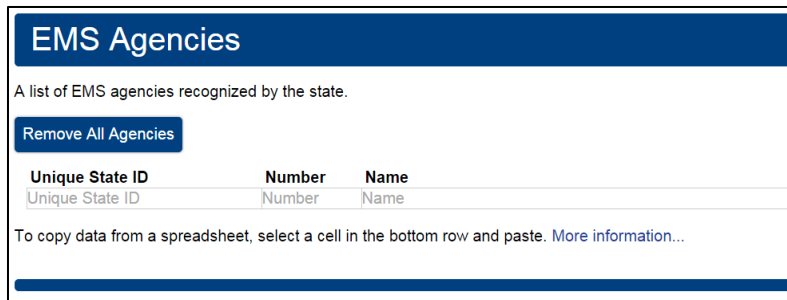- dConfiguration.05 Protocols Permitted by the State

- dConfiguration.10 EMS Agency Protocols

- eProtocols.01 Protocols Used

In the setup of each custom element, you will need to supply a value and label for each state-specific protocol, as well as the NEMSIS code for the national standard protocol that is most similar. Data submitted to your state from local EMS agencies will be augmented with the custom element values; however, only the national standard values will be submitted to the National EMS Database by your state system.

Keep in mind that age-specific protocol information can be reported by using eProtocols.02 Protocol Age Category, so you should not create custom elements with values containing different age-specific variants of national standard protocols.

8. EMS Agencies

EMS Agencies

A list of EMS agencies recognized by the state.

Remove All Agencies

Unique State ID	Number	Name
Unique State ID	Number	Name

To copy data from a spreadsheet, select a cell in the bottom row and paste. More information...

Each EMS agency knows a lot of information about itself and reports that information in its DEMDataSet submissions to the state. The purpose of the EMS Agencies section of the State Data Set Builder is to give EMS agencies the information that they need to know about *other* EMS agencies in the state. Specifically, they may need to know the names and state ID numbers of other agencies in order to report correct information for eScene.02 Other EMS or Public Safety Agencies at Scene and eScene.03 Other EMS or Public Safety Agency ID Number.

Because your EMS agency list may be large, the State Data Set Builder supports the ability to paste EMS agency information copied from a spreadsheet. The spreadsheet should have the following columns (in order, starting with the first column):

D. dAgency.01 EMS Agency Unique State ID
E. dAgency.02 EMS Agency Number
F. dAgency.03 EMS Agency Name

If your spreadsheet has a header row, do not copy the header row. If you do not have data for a particular column, include the column in the spreadsheet but leave it blank. When you do not have information for an individual cell, leave it blank.

Please consult the NEMSIS Data Dictionary for information about data element requirements. Invalid data will be pasted, but it will be highlighted in red, and you will need to correct it before you can save your data.

A spreadsheet template is available by selecting "More information…" at the bottom of the Agencies section.

9. Facilities

If your state maintains a standard list of facilities (such as hospitals) that you require or encourage all agencies to use, you may set up that list here. EMS agencies will use the information to correctly set up their facility list in their agency demographic data, which will drive the correctness of the information that they record in the scene and destination sections of their patient care reports. For more information, see the dFacility section of the NEMSIS V3 Data Dictionary.

When you type the name of a facility in the "Name" field, suggested matches will be shown.

If you select a match, the name, address location information, and phone number of the facility will be auto-populated. Type of Facility, Location Code, Hospital Designations, and National Provider Identifiers are not auto-populated.

NEMSIS uses GNIS codes for cities. When you type the name of a city in the "City" field, suggested matches will be shown. Civil class codes are prioritized over Military and Populated Place class codes (see NEMSIS Use and Priority for GNIS Codes). Codes from your own state are shown higher on the list. You must select a match. If you do not select a match, the "City" field will be left blank. If you know the GNIS code of the city, you may enter it directly.

Because your facility list may be large, the State Data Set Builder supports the ability to paste facility information copied from a spreadsheet. You can paste facility data from a spreadsheet. The spreadsheet should have the following columns (in order, starting with the first column):

A. dFacility.01 Type of Facility
B. dFacility.02 Facility Name
C. dFacility.03 Facility Location Code
D. dFacility.04 Hospital Designations (multi-value: separate values with pipe, "|")
E. dFacility.05 Facility National Provider Identifier
F. dFacility.06 Facility Room, Suite, or Apartment
G. dFacility.07 Facility Street Address
H. dFacility.07/StreetAddress2 Facility Street Address Line 2
I. dFacility.08 Facility City
J. dFacility.09 Facility State
K. dFacility.10 Facility ZIP Code
L. dFacility.11 Facility County
M. dFacility.12 Facility Country
N. dFacility.13 Facility GPS Location
O. dFacility.14 Facility US National Grid Coordinates
P. dFacility.15 Facility Phone Number (multi-value: separate values with pipe, "|")
Q. dFacility.15/PhoneNumberType Facility Phone Number Type (multi-value: separate values with pipe, "|")

If your spreadsheet has a header row, do not copy the header row. If you do not have data for a particular column, include the column in the spreadsheet but leave it blank. When you do not have information for an individual cell, leave it blank.

Please consult the NEMSIS Data Dictionary for information about data element requirements. Invalid data will be pasted, but it will be highlighted in red, and you will need to correct it before you can save your data.

A spreadsheet template is available by selecting "More information…" at the bottom of the Facilities section.

Importing from Other States or Another File

You can import information from other states that have published StateDataSet files, or you can import from a file that is on your own computer. Each section of the State Data Set Builder has an Import button, which you can select to import information for that section.

For Custom Data Elements, EMS Agencies, and Facilities, you can choose to import specific selections. For example, you can import a few facilities from a neighboring state, and they will be added to your Facility list.

For State Required Elements, State Certification/Licensure Levels, and Protocols Permitted by the State, the selection list in your StateDataSet file is replaced by the list from the other state (or the file you selected on your computer). For example, you can import the list of State Required Elements from another state, and it will replace any selections you have previously made on your State Required Elements list.

For Procedures Permitted by the State and Medications Permitted by the State, you can choose to import the list for specific certification/licensure levels. The selection lists for those levels, if they exist in your StateDataSet file, are replaced by the lists from the other state. For example, you can import the list of procedures for the AEMT certification/licensure level from another state, and it will replace any selections you have previously made on your list of procedures for the AEMT level, but it will not affect selections you have made for other levels. If you import procedures or medications for a level that is not on your own State Certification/Licensure Levels list, that level will be added to your list.
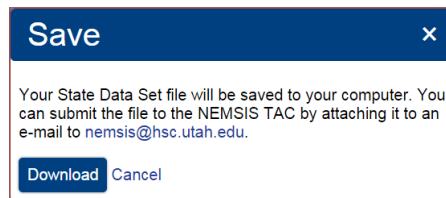
Previewing the StateDataSet File

You can select the Preview button to see how your StateDataSet file will look when published in your state repository at the NEMSIS TAC.

Saving the StateDataSet File

Changes you make in the State Data Set Builder are not automatically submitted to the NEMSIS TAC. You must save your work, which will generate a StateDataSet XML file. To do so, select the Save button.

If your State Data Set has any problems, the State Data Set Builder will list the problems, along with links to the areas where you can correct them. You will not be able to save the StateDataSet file until all problems are resolved. If there are no problems, the Save dialog will appear:

Select Download to download the StateDataSet XML file.

After you have downloaded the file, send it via e-mail to nemsis@hsc.utah.edu. Upon receiving the file, NEMSIS TAC staff will verify that your file is valid (by checking it against the StateDataSet XSD). If it is valid, the file will be published in your state repository at the NEMSIS TAC, and it will become publicly available on the NEMSIS Web site.

Other Questions

I have state-specific requirements that the State Data Set Builder does not address. What should I do?

The purpose of the State Data Set Builder is to provide resources necessary for agencies and their vendors to correctly configure a NEMSIS-compliant setup of their software. But your state may have other requirements or restrictions beyond those supported within the NEMSIS data standard and StateDataSet.

- You might restrict certain data elements to a subset of the values defined in the national standard. For these restrictions, you should publish a state-specific data dictionary supplement via the NEMSIS TAC.

- You might have data validation rules beyond those defined in the national standard. For these rules, you should publish state-specific Schematron files via the NEMSIS TAC.

- You might provide additional features in the web services interface of your state system. For these features, you should publish a state-specific web services (WSDL) file via the NEMSIS TAC.

When I access the State Data Set Builder, I see an error message saying that something went wrong. What should I do?

You may see a message saying, "Something went wrong. Try reloading. If that doesn't work, please contact the NEMSIS TAC." Generally, the message means that the State Data Set Builder was unable to access all of the resources that it needs in order to work correctly. If the problem persists after you try the `Reload` button, please contact the NEMSIS TAC, and staff will help you to troubleshoot the problem.

Can I automate the process of submitting a StateDataSet file to the NEMSIS TAC?

It is possible to automate the process of submitting your StateDataSet file updates to the NEMSIS TAC for publication in your state repository by using Git. Please contact the NEMSIS TAC for more information.

Conclusions

The StateDataSet XSD and the State Data Set Builder have been created to make it easier for state data managers to define their state-specific resources and keep all software applications up-to-date with any needed changes to those resources over time. Do not feel that you must complete all sections of your State Data Set at once. Even if you can only complete one section, please do so and submit your file to the NEMSIS TAC for publication. As your state makes progress on defining additional resources, you can complete more sections of your State Data Set.