

December 20, 2017
Revision 1.2

USER GUIDE

NHCS Release 1 Validator Test Tool User Guide

1.0 Table of Contents

OVERVIEW	2
Role of NIST	2
National Health Care Survey Validation Tool	3
Purpose	3
USING THE TOOL	3
UPLOADING YOUR DOCUMENTS	4
UNDERSTANDING ERRORS	5

2.0 OVERVIEW

2.1 Role of NIST

Since its foundation in 1901, the National Institute of Standards and Technology (NIST) has been devoted to promoting innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve human qualities of life. In support of this mission, NIST has strategically acknowledged the need for opportunity discovery within the private sector's range of vital industries and technology areas. Under the American Recovery and Reinvestment Act of 2009 (Recovery Act), NIST was called upon to consult with the Office of the National Coordinator (ONC) in its mission to encourage greater adoption of interoperable health IT technologies and capabilities. To accomplish this mission, NIST is collaborating with ONC to develop a structured program that eligible professionals, hospitals, and critical access hospitals (CAHs) can achieve that demonstrates compliance with applicable Meaningful Use Modified Stage 2 (MU2)¹ and Stage 3 (MU3)² criteria and requirements. NIST's primary role is to assist ONC in establishing the necessary functional and conformance testing requirements, Test Cases, and testing tool sets need to successfully implement a voluntary health IT certification program.

¹CMS: EHR Incentive Programs: 2015 through 2017 (Modified Stage 2) Overview:
http://www.cdc.gov/ehrmeaningfuluse/docs/cms_stage_3_mu_overview_2015_2017.pdf

²
<https://www.federalregister.gov/articles/2015/03/30/2015-06685/medicare-and-medicaid-programs-electronic-health-record-incentive-program-stage-3>

2.2 National Health Care Survey Validation Tool

NIST has developed tooling designed to be used by HIT developers and implementers during the development of software that implements CDA-based specifications. These tools can be used for self-testing to determine if an XML instance document is correct with respect to the conformance statements in the HL7 specification: National Health Care Surveys Release 1.0, DSTU, available through HL7.org.

The schematron used by this tool is from the HL7 specification package with possible modifications as needed for this context. This software is available to download as both a command-line validation tool and as a deployable web archive. Instructions for local installation are included in the download package.

2.3 Purpose

The purpose of this National Health Care Survey User Guide is to outline the process by which HIT developers and implementers can check the output of software to determine conformance with the conformance statements in the HL7 specification: National Health Care Surveys Release 1.0, DSTU, available through HL7.org.

3.0 USING THE TOOL

1. Navigate to the National Health Care Survey [Validation Page](http://cda-validation.nist.gov/cda-validation/muNHCS.html) by either clicking the following link or entering it directly into a web browser:
<http://cda-validation.nist.gov/cda-validation/muNHCS.html>.

Home Validation Tool Downloads Web Service Meaningful Use (C32) Meaningful Use (Cancer Registry) -- Stage II Meaningful Use (Cancer Registry) -- Stage III
 Meaningful Use (National Health Care Surveys)

ONC 2015 Edition Certification: National Health Care Surveys (NHCS) Release 1.0, DSTU Validation

Notice

The purpose of this site is to facilitate testing of National Health Care Surveys CDA XML documents conformant to HL7 Implementation Guide for CDA® Release 2: National Health Care Surveys (NHCS), Release 1 - US Realm HL7 Draft Standard for Trial Use (DSTU), December 2014 for certification and other purposes.

Release 1.0 of the National Health Care Surveys IG was identified in the Modified Stage 2 and Stage 3 Final Rule and 2015 Edition Final Rule as the format and standard to be used by EHRs and HIT modules to fulfill certification criteria § 170.315(f)(7) Transmission to Public Health Agencies - health care surveys. It is important to note that ONC issued a revised Certification Companion Guide (CCG) on May, 2017 that "Clarified that ONC will permit and provide testing and certification for conformance to NHCS IG Release 1.2 to meet this criterion; and will not require the retesting and certification of health IT previously certified to NHCS Release 1.0." (See [2015E4_CCG_f7-Trans-PHA-health-care-surveys.pdf](#)).

It is also important to note, that the National Health Care Surveys (NHCS) strongly prefers developers and implementers to use NHCS IG Release 1.2 to fulfill certification criteria § 170.315(f)(7). (See http://www.hl7.org/implementation/standards/product_id=385) For more information on the National Health Care Surveys see https://www.cdc.gov/nchs/dhcs/meaningful_use.htm

Download

- [muNchsValidation-1.1.3-20170303.tar.gz](#) -- This release (dated March 3rd, 2017) contains the schematron rules for National Health Care Surveys Release 1.0, DSTU Validation Tool. It also includes the .war file download for location installation and a command-line version. Please read the included README.txt for more information. **This is the more recent release.**
- [muNchsValidation-1.1.2-20160916.tar.gz](#) -- This release (dated September 16th, 2016) contains the schematron rules for National Health Care Surveys Release 1.0, DSTU Validation Tool. It also includes the .war file download for location installation and a command-line version. Please read the included README.txt for more information.
- [muNchsValidation-1.1.1-20160816.tar.gz](#) -- This release (dated August 16th, 2016) contains the schematron rules for National Health Care Surveys Release 1.0, DSTU Validation Tool. It also includes the .war file download for location installation and a command-line version. Please read the included README.txt for more information.
- [muNchsValidation-1.1.0-20160422.tar.gz](#) -- This release (dated April 22nd, 2016) contains the schematron rules for National Health Care Surveys Release 1.0, DSTU Validation Tool. It also includes the .war file download for location installation and a command-line version. Please read the included README.txt for more information.
- [muNchsValidation-1.0-20151223.tar.gz](#) -- This release (dated December 23rd, 2015) contains the schematron rules for National Health Care Surveys Release 1.1, DSTU Validation Tool. It also includes the .war file download for local installation. Please read the included README.txt file for more information.
- [muNchsValidation-0.91-BETA-20151119.tar.gz](#) -- This BETA release (dated November 19th, 2015) contains the schematron rules for National Health Care Surveys Release 1.1, DSTU Validation Tool. It also includes the .war file download for local installation. Please read the included README.txt file for more information.
- [muNchsValidation-0.9-BETA-20151029.tar.gz](#) -- This BETA release (dated October 29th, 2015) contains the schematron rules for National Health Care Surveys Release 1.1, DSTU Validation Tool. It also includes the .war file download for local installation. Please read the included README.txt file for more information.

On-line Version (V 1.1.3)



Step 1. Upload your National Health Care Surveys XML document for validation: No file chosen

Step 2.

Test data

- [NHCSTestData1_0.xlsx](#)

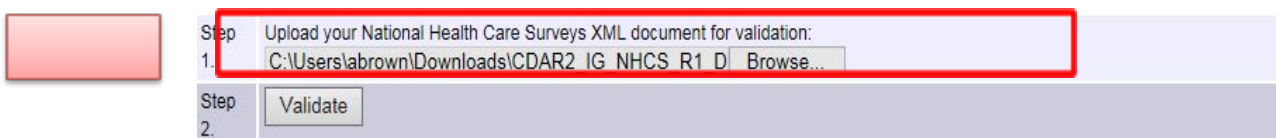
Documentation

  Date Created: 09-25-15 | Date Updated: 04-20-16
[Disclaimer](#) | [Email Website Administrator](#) | [Privacy/Policy](#)

- The **Download** section allows you to download the latest version of the tool (as well as previous, legacy versions).
- The **Online Version** of the tool allows you to:
 - Step 1.* Upload your National Healthcare Survey XML document.
 - Step 2.* Validate your document.
- Test Data** provides test data.
- The **Documentation** section provides instructions and updates.

4.0 UPLOADING YOUR DOCUMENTS

- Upload the CDA file using the buttons provided.



Step 1. Upload your National Health Care Surveys XML document for validation:
 1. C:\Users\labrown\Downloads\CDAR2 IG NHCS R1 D

Step 2.

2. Click the **Validate** button.

The screenshot displays the 'Validation Results' page of the National Health Care Surveys Validation Tool. At the top, a navigation bar includes links for Home, Validation Tool, Downloads, Web Service, Meaningful Use (C32), Meaningful Use (Cancer Registry), and Meaningful Use (National Health Care Surveys) -- BETA. Below the navigation bar, the 'Validation Results' section shows a table with the following data:

Validation Status	Complete
Date of Test	20151217
Time of Test	115253.0051 -0500
Result of Test	Passed
Error Count	0

Below the table, the 'National Health Care Survey -- Warnings:' section lists several messages. Each message includes a 'Message' field with a warning description, a 'Context' field with a path, and a 'Test' field with a value. The messages are:

- Message: SHOULD contain zero or one [0..1] postalCode, which SHOULD be selected from ValueSet PostalCode 2.16.840.1.113883.3.88.12.80.2 DYNAMIC (CONF:81-7294). Context: /ClinicalDocument[1]/recordTarget[1]/patientRole[1]/addr[1]. Test: not(.)
- Message: SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet PostalAddressUse 2.16.840.1.113883.1.11.10637 STATIC 2005-05-01 (CONF:81-7290). Context: /ClinicalDocument[1]/author[1]/assignedAuthor[1]/addr[1]. Test: @use
- Message: SHOULD contain zero or one [0..1] postalCode, which SHOULD be selected from ValueSet PostalCode 2.16.840.1.113883.3.88.12.80.2 DYNAMIC (CONF:81-7294). Context: /ClinicalDocument[1]/author[1]/assignedAuthor[1]/addr[1]. Test: not(.)
- Message: SHOULD contain zero or one [0..1] postalCode, which SHOULD be selected from ValueSet PostalCode 2.16.840.1.113883.3.88.12.80.2 DYNAMIC (CONF:81-7294). Context: /ClinicalDocument[1]/custodian[1]/assignedCustodian[1]/representedCustodianOrganization[1]/addr[1]. Test: not(.)
- Message: SHOULD contain zero or more [0..*] entry (CONF:1098-14823) such that it SHALL contain exactly one [1..1] Smoking Status - Meaningful Use (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.78:2014-06-09) (CONF:1098-14824).

At the bottom of the page, there are logos for NIST (National Institute of Standards and Technology) and ITL (Information Technology Laboratory). On the right side, there is a footer with the text: 'Date Created: 09-25-15 | Date Updated: 12-16-15' and links for 'Disclaimer', 'Email Website Administrator', and 'Privacy/Policy'. A note at the bottom right states: 'indicates you are leaving the NIST Webspace. Click here for the disclaimer.'

3. A **Validation Report** will appear.

Note: Scroll down to view the entire listing of validation results. Information will consist of the Report's time, date, status, number of errors, etc. This summary information will be followed by a detailed listing of the errors found.

5.0 UNDERSTANDING ERRORS

4. If there are errors / warnings, they divide into two types.

- The first error type is schema errors. (*This is displayed as simply a schema error message.*)

- The second error type is schematron errors/warnings.

There are three items associated with each: "*message*", "*context*", and "*test*." Following immediately after the second error type is schematron errors/warnings.

- **Message** is a quote from the specification indicating what the XML failed to do.
- **Context** is an XPath expression indicating where in the XML document the issue occurred.
- **Test** is the actual schematron XPath test that was run. This logical expression was executed from the context location and resolved to "false" but the tool was looking for "true".