The Office of the National Coordinator for Health Information Technology

Test Procedure for §170.314(a)(15) Patient-specific education resources

This document describes the test procedure for evaluating conformance of electronic health record (EHR) technology to the certification criteria defined in 45 CFR Part 170 Subpart C of the Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology, Final Rule. The document[1] is organized by test procedure and derived test requirements with traceability to the normative certification criteria as described in the Overview document located at http://www.healthit.gov/certification (navigation: 2014 Edition Test Method). The test procedures may be updated to reflect on-going feedback received during the certification activities.

The Department of Health and Human Services (HHS)/Office of the National Coordinator for Health Information Technology (ONC) has defined the standards, implementation guides and certification criteria used in this test procedure. Applicability and interpretation of the standards, implementation guides and certification criteria to EHR technology is determined by ONC. Testing of EHR technology in the Permanent Certification Program, henceforth referred to as the ONC Health Information Technology (HIT) Certification Program[2], is carried out by National Voluntary Laboratory Accreditation Program (NVLAP)-Accredited Testing Laboratories (ATLs) as set forth in the final rule establishing the Permanent Certification Program (*Establishment of the Permanent Certification Program for Health Information Technology, 45 CFR Part 170; February 7, 2011*).

Questions or concerns regarding the ONC HIT Certification Program should be directed to ONC at ONC.Certification@hhs.gov.

CERTIFICATION CRITERION

This certification criterion is from the Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology, Final Rule issued by the Department of Health and Human Services (HHS) on September 4, 2012.

§170.314(a)(15) Patient-specific education resources. EHR technology must be able to electronically identify for a user patient-specific education resources based on data included in the patient's problem list, medication list, and laboratory tests and values/results:

(i) In accordance with the standard specified at §170.204(b) and the implementation specifications at §170.204(b)(1) or (2); and

(ii) By any means other than the method specified in paragraph (a)(15)(i) of this section.

[1] Disclaimer: Certain commercial products may be identified in this document. Such identification does not imply recommendation or endorsement by ONC.

[2] Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology, Final Rule.

Per Section III.A of the preamble of the Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology, Final Rule, the 2014 Edition of this certification criterion is classified as revised from the 2011 Edition. This certification criterion meets at least one of the three factors of revised certification criteria: (1) the certification criterion includes changes to capabilities that were specified in the previously adopted certification criterion, (2) the certification criterion has a new mandatory capability that was not included in the previously adopted certification criterion, or (3) the certification criterion was previously adopted as "optional" for a particular setting and is subsequently adopted as "mandatory" for that setting.

2014 Edition Preamble Language

Per Section III.A of the preamble of the Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology, Final Rule (September 4, 2012) where the patient-specific education resources certification criterion is discussed:

- "...we are adopting a certification criterion that requires EHR technology to demonstrate a capability to identify patient-specific education materials using the HL7 Context-Aware Knowledge Retrieval standard (with the applicable implementation guide) as well as through another means (i.e., at minimum, 2 different ways, one of which is through the use of the HL7 Context-Aware Knowledge Retrieval Standard)."
- "The certification criterion requires that EHR technology be capable of identifying patient-specific education resources based on data included in a patient's problem list, medication list, and laboratory tests and values/results. To clarify, EHR technology must be capable of identifying patient-specific education resources based on data from any one of these categories. The identification of patient-specific education resources based on a combination of data from these categories would also be acceptable, but in order to demonstrate compliance with this certification criterion EHR technology must be able to identify patient-specific education materials, in some manner, for all of the categories (i.e., a combination of 2 out of 3 categories would be insufficient to satisfy this certification criterion's requirements)."
- "…we are adopting the URL-Based Implementation Guide and the SOA-based Implementation Guide. We have adopted them as an "or" meaning that only one would need to be used to demonstrate compliance with this certification criterion."
- "We do not preclude the integration of MedlinePlus Connect in EHR technology and note that MedlinePlus Connect supports the Infobutton standard."
- "…a patient's preferred language should be recorded per the "demographics" certification criterion (§ 170.314(a)(3)). We would anticipate that, in an effort to be responsive to a patient and provide quality care, EPs, EHs, and CAHs would take the patient's recorded preferred language into consideration when providing patient education materials."

2011 Edition Preamble Language

Per Section III.D of the preamble of the Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, Final Rule (July 28, 2010) where the patient-specific education resources certification criterion is discussed:

- "We clarify that we do not specify how Certified EHR Technology must be used to provide such resources to a patient. That is, such resources could be printed out, faxed, or emailed."

Changes From 2011 To 2014 Edition

Per Section III.A of the preamble of the Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology, Final Rule (September 4, 2012) where the patient-specific education resources certification criterion is discussed:

- "We proposed to adopt a revised 2014 Edition EHR certification criterion that does not have the language "as well as provide such resources to the patient" at the end of the paragraph."
- "…we have revised the certification criterion to require that EHR technology demonstrate the capability of using HL7 Context-Aware Knowledge Retrieval Standard and another means to identify patient-specific education resources."
- "We have also revised the language referenced by this certification criterion to make it clearer. The certification criterion requires that EHR technology be capable of identifying patient-specific education resources based on data included in a patient's problem list, medication list, and laboratory tests and values/results."

Informative Test Description

This section provides an informative description of how the test procedure is organized and conducted. It is not intended to provide normative statements of the certification requirements.

This test evaluates the capability for EHR Technology to electronically identify for a user patient-specific education resources based on data included in the patient's problem list, medication list, and laboratory tests and values/results:

(i) In accordance with the standard specified at § 170.204(b) and the implementation specifications at § 170.204(b)(1) or (2); and

(ii) By any means other than the method specified in paragraph (a)(15)(i) of this section.

The Vendor supplies the test data for this test procedure.

This test procedure is organized into one section:

- Identify – evaluates the capability to electronically identify for a user patient-specific education resources based on data included in the patient's problem list, medication list, and laboratory tests and values/results:
  - In accordance with the standard specified at § 170.204(b) and the implementation specifications at § 170.204(b)(1) or (2); and
  - By any means other than the method specified in paragraph (a)(15)(i) of this section.

The Tester electronically identifies patient-specific education resources using the HL7 Context-Aware Knowledge Retrieval Standard (with the applicable implementation guide) and at least one other vendor-identified EHR function based on data from each one of the following data categories:

- Problem list
- Medication list
- Laboratory tests and values/results

The EHR technology must be able to identify patient-specific education resources based on data from any one or combination of the three categories including the patient's problem list, medication list, and laboratory tests and values/results. However, in order to demonstrate compliance with this certification criterion, the EHR technology must be able to identify patient-specific education resources, in some manner, for all these categories. These queries must be derived automatically from the patient data stored in the EHR.

REFERENCED STANDARDS

§170.204 Functional standards	Regulatory Referenced Standard
The Secretary adopts the following functional standards:	
(b) Reference source. Standard. HL7 Version 3 Standard: Context-Aware Retrieval Application (Infobutton) (incorporated by reference in § 170.299). (1) Implementation specifications. HL7 Version 3 Implementation Guide: URL-Based Implementations of the Context-Aware Information Retrieval (Infobutton) Domain, (incorporated by reference in § 170.299). (2) Implementation specifications. HL7 Version 3 Implementation Guide: Context-Aware Knowledge Retrieval (Infobutton) Service-Oriented Architecture Implementation Guide, (incorporated by reference in § 170.299).	

NORMATIVE TEST PROCEDURES

Derived Test Requirements

DTR170.314(a)(15) – 1: Electronically Identify Patient-Specific Education Resources

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Required Vendor Information

VE170.314(a)(15) – 1.01: Vendor shall identify and select one patient with an existing record in the EHR to be used for this test

VE170.314(a)(15) – 1.02: Vendor shall identify patient-specific education resources available for this test

VE170.314(a)(15) – 1.03: Vendor shall provide the test data for this test

VE170.314(a)(15) – 1.04: Vendor shall demonstrate that the HL7 Context-Aware Knowledge Retrieval (Infobutton) Standard (used with the applicable implementation guide) is available to electronically identify patient-specific education resources based on data from each one of the following data categories:

- Problem list
- Medication list
- Laboratory tests and values/results

VE170.314(a)(15) – 1.05: Vendor shall identify at least one other EHR function that is available to electronically identify patient-specific education resources based on data from each one of the data categories listed in VE170.314(a)(15) – 1.04

Required Test Procedure

TE170.314(a)(15) – 1.01: Tester shall select a patient record identified by the Vendor and populated with Vendor-supplied test data

TE170.314(a)(15) – 1.02: Using the HL7 Context-Aware Knowledge Retrieval (Infobutton) Standard (with the applicable implementation guide) and at least one other EHR function identified by the Vendor, the Tester shall identify patient-specific education resources for a patient based on data from each one of the data categories listed in VE170.314(a)(15) – 1.04

TE170.314(a)(15) – 1.02: Using the Inspection Test Guide (below), the Tester shall verify that the identified patient-specific education resources are based on data from each one of the data categories listed in VE170.314(a)(15) – 1.04

Inspection Test Guide

IN170.314(a)(15) – 1.01: Tester shall verify that patient-specific education resources are identified based on each one of the Vendor-supplied data including a patient's problem list, medication list, and laboratory tests and values/results

TEST DATA

The Vendor shall supply the test data for this test procedure.

Vendor-supplied test data shall focus on meeting the basic capabilities required of EHR technology relative to the certification criterion rather than exercising the full breadth/depth of capability that installed EHR technology might be expected to support.

The test procedures require that the Tester enter the applicable test data into the EHR technology being evaluated for conformance. The intent is that the Tester fully controls the process of entering the test data in order to ensure that the data are correctly entered as specified in the test procedure. If a situation arises where it is impractical for a Tester to directly enter the test data, the Tester, at the Tester's discretion, may instruct the Vendor to enter the test data, so long as the Tester remains in full control of the testing process, directly observes the test data being entered by the Vendor, and validates that the test data are entered correctly as specified in the test procedure.

For Vendor-supplied test data, the Tester shall address the following:

- Vendor-supplied test data shall ensure that the requirements identified in the criterion can be adequately evaluated for conformance.
- Vendor-supplied test data shall strictly focus on meeting the basic capabilities required of an EHR relative to the certification criterion rather than exercising the full breadth/depth of capability that an installed EHR might be expected to support.
- Tester shall record as part of the test documentation the specific Vendor-supplied test data that was utilized for testing.

CONFORMANCE TEST TOOLS

None

Document History

Version Number	Description of Change	Date
1.0	Released for public comment	September 7, 2012
1.1	Delivered for National Coordinator Approval	December 4, 2012
1.2	Posted Approved Test Procedure	December 14, 2012