The Office of the National Coordinator for
Health Information Technology

Test Procedure for §170.314(a)(1) Computerized provider order entry

This document describes the test procedure for evaluating conformance of complete EHRs or EHR modules 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 [available when final]. The test procedures may be updated to reflect on-going feedback received during the certification activities.

The 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 HIT Certification Program[2], is carried out by National Voluntary Laboratory Accreditation Program-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. This Certification Criterion is included in the definition of a Base EHR.

§170.314(a)(1) Computerized provider order entry**.** Enable a user to electronically record, change, and access the following order types, at a minimum:

(i) Medications;
(ii) Laboratory; and
(iii) Radiology/imaging.

[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

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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 unchanged with refinements from the 2011 Edition. This Certification Criterion meets the three factors of unchanged certification criteria: (1) the certification criterion includes only the same capabilities that were specified in previously adopted certification criteria, (2) the certification criterion's capabilities apply to the same setting as they did in previously adopted certification criteria, and (3) the certification criterion remains designated as "mandatory," or it is re-designated as "optional," for the same setting for which it was previously adopted certification criterion. Accordingly, 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 published in the Federal Register on July 28, 2010 also applies to the 2014 Edition of this Certification Criterion.

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 where the computerized provider order entry certification criterion is discussed:

- "…we do clarify that the change in the CPOE denominator affects the "automated measure calculation" certification criterion (§ 170.314(g)(2)), which is a revised certification criterion for the 2014 Edition EHR certification criteria."
- "This certification criterion focuses on enabling a user to electronically record, change, and access, at a minimum, medication, laboratory and radiology/imaging orders. It does not focus on transmission of those orders."

Per Section III.D of the Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, Final Rule where the computerized provider order entry certification criterion is discussed:

- "We clarify that the adopted certification criteria related to CPOE pertain only to the ordering, and not to the delivery of results (reports or images)."

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 where the computerized provider order entry certification criterion is discussed:

- "We proposed a CPOE certification criterion that merged the separate ambulatory and inpatient CPOE certification criteria in the 2011 Edition EHR certification criteria into one criterion because they those [sic] certification criteria are identical."

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- "We proposed to replace the terms "modify" and "retrieve" with "change" and "access," respectively."
- "We also proposed to remove the term "store" from the criterion because it is redundant with our interpretation of the term "record.""
- "…we proposed to move the phrase "at a minimum" in the certification criterion to eliminate any possible ambiguity as to what the phrase modifies. As proposed, the certification criterion made clear that the phrase modifies the order types and not the terms "record," "change," and "access.""

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 a Complete EHR or EHR Module to enable a user to electronically record, change, and access the following order types, at a minimum:
(i) Medications;
(ii) Laboratory; and
(iii) Radiology/imaging.

The test procedure is not prescriptive about the method used to change an order. For example, changing an order does not require changing an existing instance of an order. Change may be accomplished through discontinuing/canceling an existing order and entering a new order.

This test procedure is organized into three sections:

- Record - evaluates the capability to electronically enter orders for medications, laboratory, and radiology/imaging within the EHR system
  - The Tester enters the ONC-supplied Test Data orders for medications, laboratory, and radiology/imaging
  - The Tester verifies that the orders are recorded in the EHR

- Change - evaluates the capability for a user to electronically change entered orders for medications, laboratory, and radiology/imaging in the EHR
  - The Tester displays the entered orders for medications, laboratory, and radiology/imaging
  - Tester changes the medications, laboratory, and radiology/imaging orders
  - The Tester verifies that the changed orders are accurate and complete

- Access - evaluates the capability to access and display the orders that have been previously entered into the EHR
  - The Tester displays the orders for medications, laboratory, and radiology/ imaging entered during the test
  - The Tester verifies that the displayed order data are accurate and complete

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For complete EHR or EHR modules **targeted to the ambulatory setting**, the following derived test requirements apply:

- DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting
- DTR170.314.a.1 – 2: Electronically Change Orders in an Ambulatory Setting
- DTR170.314.a.1 – 3: Electronically Access Orders in an Ambulatory Setting

For complete EHR or EHR modules **targeted to the inpatient setting**, the following derived test requirements apply:

- DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting
- DTR170.314.a.1 – 5: Electronically Change Orders in an Inpatient Setting
- DTR170.314.a.1 – 6: Electronically Access Orders in an Inpatient Setting

For complete EHR or EHR modules **targeted to both settings**, the following derived test requirements apply:

- DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting
- DTR170.314.a.1 – 2: Electronically Change Orders in an Ambulatory Setting
- DTR170.314.a.1 – 3: Electronically Access Orders in an Ambulatory Setting
- DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting
- DTR170.314.a.1 – 5: Electronically Change Orders in an Inpatient Setting
- DTR170.314.a.1 – 6: Electronically Access Orders in an Inpatient Setting

Referenced Standards

None

Normative Test Procedures – Ambulatory Setting

Derived Test Requirements

DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting

DTR170.314.a.1 – 2: Electronically Change Orders in an Ambulatory Setting

DTR170.314.a.1 – 3: Electronically Access Orders in an Ambulatory Setting

DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting

Required Vendor Information

VE170.314.a.1 – 1.01: Vendor shall identify a patient with an existing record in the EHR to be used for this test

VE170.314.a.1 – 1.02: Vendor shall identify the EHR function(s) that are available to: 1) select the patient, 2) enter orders for medications, laboratory, and radiology/imaging, 3) change orders for medications, laboratory, and radiology/imaging, and 4) access orders for medications, laboratory, and radiology/imaging in an ambulatory setting

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Required Test Procedure:

TE170.314.a.1 – 1.01: Tester shall select order test data from one ONC-supplied test data set in TD170.314.a.1 – 1

TE170.314.a.1 – 1.02: Using the EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record and enter orders from the selected test data set in TD170.314.a.1 – 1 for medications, laboratory, and radiology/imaging

TE170.314.a.1 – 1.03: Using the Inspection Test Guide (below), the Tester shall verify that the orders have been entered correctly and without omission

Inspection Test Guide

IN170.314.a.1 – 1.01: Using the data in the selected ONC-supplied test data set in TD170.314.a.1 – 1, Tester shall verify that the order test data are entered correctly and without omission

IN170.314.a.1 – 1.02: Tester shall verify that the order data are recorded in the patient's record for:

- medications
- laboratory
- radiology/imaging

DTR170.314.a.1 – 2: Electronically Change Orders in an Ambulatory Setting

Required Vendor Information

- As defined in DTR170.314.a.1 – 1, no additional information is required

Required Test Procedure:

TE170.314.a.1 – 2.01: Tester shall select order test data from one ONC-supplied test data set in TD170.314.a.1 – 2 that corresponds to the data set selected for DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting

TE170.314.a.1 – 2.02: Using the EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record, shall display the order data entered during the DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting test, and shall change the previously entered orders for medications, laboratory, and radiology/ imaging

TE170.314.a.1– 2.03: Using the Inspection Test Guide (below), the Tester shall verify that the orders that were entered in TE170.314.a.1 – 2.02 have been entered correctly and without omission

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Inspection Test Guide

IN170.314.a.1 – 2.01: Using the data in the selected ONC-supplied test data set in TD170.314.a.1 – 2, Tester shall verify that the medication, laboratory, and radiology/imaging order data entered during the DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting test are accessed and changed correctly and without omission

IN170.314.a.1 – 2.02: Tester shall verify that the changed orders are recorded in the patient record correctly, including

- medications
- laboratory
- radiology/imaging

DTR170.314.a.1 – 3: Electronically Access Orders in an Ambulatory Setting

Required Vendor Information

- As defined in DTR170.314.a.1 – 1, no additional information is required

Required Test Procedure:

TE170.314.a.1 – 3.01: Using the EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record and display the orders the Tester entered during the DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting test and changed during the DTR170.314.a.1 – 2: Electronically Change Orders in an Ambulatory Setting test for medications, laboratory, and radiology/imaging

TE170.314.a.1 – 3.02: Using the Inspection Test Guide (below), the Tester shall verify that the order data display correctly and without omission

Inspection Test Guide:

IN170.314.a.1 – 3.01: Using the data in the ONC-supplied test data set in TD170.314.a.1 – 3 that corresponds to the data set selected for DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting, Tester shall verify that the order data entered during the DTR170.314.a.1 – 1: Electronically Record Orders in an Ambulatory Setting test and changed during the DTR170.314.a.1 – 2: Electronically Change Orders in an Ambulatory Setting test display correctly and without omission, including

- medications
- laboratory
- radiology/imaging

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NORMATIVE TEST PROCEDURES – INPATIENT SETTING

Derived Test Requirements

DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting

DTR170.314.a.1 – 5: Electronically Change Orders in an Inpatient Setting

DTR170.314.a.1 – 6: Electronically Access Orders in an Inpatient Setting

DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting

Required Vendor Information

VE170.314.a.1 – 4.01: Vendor shall identify a patient with an existing record in the EHR to be used for this test

VE170.314.a.1 – 4.02: Vendor shall identify the EHR function(s) that are available to: 1) select the patient, 2) enter orders for medications, laboratory, and radiology/imaging, 3) change orders for medications, laboratory, and radiology/imaging, and 4) access orders for medications, laboratory, and radiology/imaging in an inpatient setting

Required Test Procedure:

TE170.314.a.1 – 4.01: Tester shall select order test data from one ONC-supplied test data set in TD170.314.a.1 – 4

TE170.314.a.1 – 4.02: Using the EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record and enter orders from the selected test data set in TD170.314.a.1 – 4 for medications, laboratory, and radiology/imaging

TE170.314.a.1 – 4.03: Using the Inspection Test Guide (below), the Tester shall verify that the orders have been entered correctly and without omission

Inspection Test Guide

IN170.314.a.1 – 4.01: Using the data in the selected ONC-supplied test data set in TD170.314.a.1 – 4, Tester shall verify that the order test data are entered correctly and without omission

IN170.314.a.1 – 4.02: Tester shall verify that the order data are recorded in the patient's record for:

- medications
- laboratory
- radiology/imaging

DTR170.314.a.1 – 5: Electronically Change Orders in an Inpatient Setting

Required Vendor Information

- As defined in DTR170.314.a.1 – 4, no additional information is required

Required Test Procedure:

TE170.314.a.1 – 5.01: Tester shall select order test data from one ONC-supplied test data set in TD170.314.a.1 – 5 that corresponds to the data set selected for DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting

TE170.314.a.1 – 5.02: Using the EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record, shall display the order data entered during the DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting test, and shall change the previously entered orders for medications, laboratory, and radiology/ imaging

TE170.314.a.1– 5.03: Using the Inspection Test Guide (below), the Tester shall verify that the orders that were entered in TE170.314.a.1 – 5.02 have been entered correctly and without omission

Inspection Test Guide

IN170.314.a.1 – 5.01: Using the data in the selected ONC-supplied test data set in TD170.314.a.1 – 5, Tester shall verify that the medication, laboratory, and radiology/imaging order data entered during the DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting test are accessed and changed correctly and without omission

IN170.314.a.1 – 5.02: Tester shall verify that the changed orders are recorded in the patient record correctly, including

- medications
- laboratory
- radiology/imaging

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DTR170.314.a.1 – 6: Electronically Access Orders in an Inpatient Setting

Required Vendor Information

- As defined in DTR170.314.a.1 – 4, no additional information is required

Required Test Procedure:

TE170.314.a.1 – 6.01: Using the EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record and display the orders the Tester entered during the DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting test and changed during the DTR170.314.a.1 – 5: Electronically Change Orders in an Inpatient Setting test for medications, laboratory, and radiology/imaging

TE170.314.a.1 – 6.02: Using the Inspection Test Guide (below), the Tester shall verify that the order data display correctly and without omission

Inspection Test Guide:

IN170.314.a.1 – 6.01: Using the data in the ONC-supplied test data set in TD170.314.a.1 – 6 that corresponds to the data set selected for DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting, Tester shall verify that the order data entered during the DTR170.314.a.1 – 4: Electronically Record Orders in an Inpatient Setting test and changed during the DTR170.314.a.1 – 5: Electronically Change Orders in an Inpatient Setting test display correctly and without omission, including

- medications
- laboratory
- radiology/imaging

CONFORMANCE TEST TOOLS

None

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Document History

Version Number	Description	Date
1.0	Released for public comment	September 7, 2012

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