Test Procedure for §170.314 (g)(1) Automated numerator recording
Test Procedure for §170.314 (g)(2) Automated measure calculation

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 CRITERIA

These Certification Criteria are 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.

§170.314g.2. Automated measure calculation. For each meaningful use objective with a percentage-based measure that is supported by a capability included in an EHR technology, electronically record the numerator and denominator and create a report including the numerator, denominator, and resulting percentage associated with each applicable meaningful use measure.

[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

§170.314 g.1 Automated numerator recording. For each meaningful use objective with a percentage-based measure, EHR technology must be able to create a report or file that enables a user to review the patients or actions that would make the patient or action eligible to be included in the measure's numerator. The information in the report or file created must be of sufficient detail such that it enables a user to match those patients or actions to meet the measure's denominator limitations when necessary to generate an accurate percentage.

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 §170.314(g)(1) automated numerator recording is classified as new from the 2011 Edition. The §170.314(g)(1) automated numerator recording certification criterion meets at least one of the factors of new certification criteria: (1) The certification criterion only specifies capabilities that have never been included in previously adopted certification criteria; or, (2) The certification criterion was previously adopted as "mandatory" for a particular setting and subsequently adopted as "mandatory" or "optional" for a different setting.

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 §170.314(g)(2) automated measure calculation is classified as revised from the 2011 Edition. The §170.314(g)(2) automated measure calculation 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.

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 §170.314(g)(1) automated numerator recording certification criterion is discussed:

- "As we acknowledged in the Proposed Rule, this certification criterion could only help so much because of the potential that an EHR Module would not necessarily have the ability to determine the appropriate denominator for a given measure."
- "…we clarify that for the purposes of testing and certification, an EHR Module would not need to be able to precisely identify the MU numerator after all of the denominator's filtering had been applied. Instead, it will need to be able to identify that patients or actions that would generally meet the numerator and the minimum denominator criteria that would be necessary to match the information provided by the EHR Module to the full denominator criteria from other data sources."
- "Additionally, to reflect that in order for this information to be useful to an EP, EH, or CAH to determine the true numerator, the EHR Module (similar to the automated measure calculation

certification criterion) would need to be able to produce a file/report that identifies those patients or actions that would meet the numerator."

- "We note that depending on the certification criterion or criteria to which the EHR Module is presented for certification that the potential approach to determine the overall number of patients or actions may be different."
- "This requirement is broadly applicable to every EHR Module presented for certification and we decline to provide any exemption."
- "…this is approach [an EHR Module presented for testing and certification [to] get certified to the automated measure calculation certification criterion instead of the automated numerator certification criterion] is permitted and encouraged in instances where EHR technology developers have developed a sufficiently large EHR Module such that it could meet the automated measure calculation certification criterion for all of the capabilities it includes and that correlate to percentage-based MU measures… Where possible, we encourage EHR technology developers to follow this approach in order to provide EPs, EHs, and CAHs with the most efficient means of identifying the numerators and denominators for an MU EHR reporting period. We also note that it is also permitted and encouraged for EHR technology developer to seek certification for a combination of automated numerator and measure calculation certification criteria where the EHR Module may have a reliable and known denominator that can be used as the basis for calculating certain percentage-based MU measures."

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 §170.314(g)(2) automated measure calculation certification criterion is discussed:

- "…beginning in FY/CY 2014 EHR technology will need to be certified to the 2014 Edition EHR certification criteria to meet the CEHRT definition and the tables clearly associate the certification criterion or criteria with the MU objective it supports"
- "We emphasized that testing to this certification criterion would not only include verification of the ability of EHR technology to generate numerators and denominators, but would also verify the accuracy of the numerators and denominators generated by the EHR technology."
- "Additionally, we stated that testing and certification to this revised certification criterion would include testing and certifying the ability to electronically record the numerator and denominator and create a report including the numerator, denominator, and resulting percentage associated with each applicable MU measure that is supported by a capability in the new certification criteria proposed and adopted in a final rule."
- "This certification criterion requires EHR technology to demonstrate the capability to automatically create reports based on the numerator and denominator for MU objectives with percentage-based measures."
- "This certification criterion is required in order for EHR technology presented for certification to meet the Complete EHR definition. We permit, but do not require, EHR technology presented as an EHR Module for certification to also be certified to this certification criterion. In instances where an EHR Module is not presented for certification to this certification criterion, it would need

to be certified to the "automated numerator calculation" certification criterion adopted in this final rule."

- "While we realize such detailed information [patient identifiers and data elements and if the patient record assessed met or did not meet the objective] may have value for an EP, EH, and CAH, but we do not believe that we need to require such level of detail be displayed to the user for purposes of certification and to support the calculation and reporting of objectives with percentage-based measures. We note, however, that this level of detail may be useful to demonstrate an EHR technology's compliance with this certification criterion during testing."
- "Finally, we wish to make clear that for MU objectives which CMS has provided flexibility in its final rule for EPs, EHs, and CAHs to pursue alternative approaches to measuring a numerator and denominator, the EHR technology must be able to support all CMS-acceptable approaches in order to meet this certification criterion."

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 automated numerator recording and automated measure calculation certification criterion is discussed:

- "We revised the certification criterion to clearly identify that the recording, calculating, and reporting capabilities required by this certification criterion apply to the numerator and denominator associated with the capabilities that support an MU objective with a percentage-based measure. We clarified that the capabilities are the capabilities included in the certification criteria to which a Complete EHR or EHR Module is presented for certification."
- "We include a table at the beginning of the discussion of each certification criterion or criteria that specifies the MU objective that the 2014 Edition EHR certification criterion or criteria support. The objective cited is either a Stage 1 or Stage 2 objective that will be effective for the EHR reporting periods in FY/CY 2014"

INFORMATIVE TEST DESCRIPTION (GENERAL)

This section provides an informative description of how the test procedures for §170.314 g.1 and §170.314 g.2 are organized and conducted. It is not intended to provide normative statements of the certification requirements.

Per the ONC final rule, Vendors presenting Module EHR technology for certification must meet the §170.314 g.1 requirements at a minimum and present a report with patients or actions meeting a measure's numerator definition without the limitations of the denominator definition. Vendors are encouraged to capture additional denominator data elements in Module EHR technology in a manner that defines the numerator more accurately than a numerator without denominator limitations.

These test procedures are organized in the following order:

- The Derived Test Requirements' Required Vendor Information and Required Test Procedures for §170.314 g.2 and §170.314 g.1 are presented together and labeled as §170.314 g.2; the Tester and Vendor will follow all §170.314 g.2 steps for §170.314 g.2 and §170.314 g.1 for EHRs presenting for Complete and Module EHR certification
- The Test Data for §170.314 g.2 and §170.314 g.1 are presented in the same spreadsheet tab
    - EHRs presenting as a Complete EHR will follow the Inspection Test Guide for §170.314 g.2, and Labs will refer to the "Denominator Increment" and "Numerator Increment" columns in the Test Data spreadsheet
    - EHRs presenting as a Module EHR will follow the Inspection Test Guide for §170.314 g.1, and Labs will refer to the "Numerator Recorded" column in the Test Data spreadsheet; if a Vendor presents for Module Certification with the capability to capture one or more of the denominator data elements, the Tester should follow the "Denominator Increment" and "Numerator Increment" columns in the Test Data

The §170.314 g.1 Inspection Test Guide evaluates the capability for a EHR Module to electronically record the numerator for each meaningful use objective with a percentage-based measure, and to create a report or file that enables a user to review the patients or actions that would make the patient or action eligible to be included in the measure's numerator with each applicable meaningful use measure. The information in the report or file must be of sufficient detail such that it enables a user to match those patient or actions to meet the measure's denominator limitations when necessary to create an accurate percentage. Identifying information may include and is not limited to: patient demographic (last name, first name, sex, date of birth) and encounter information.

As described above, if a Vendor is able to capture one or more of the denominator data elements to accurately report the numerator with denominator filters applied, the §170.314 g.2 Inspection Test Guide may be referenced by the Tester and serve as a guide for the Tester to assess the increment in the numerator only, as best able with the denominator data element(s) available, the increment in the denominator and numerator.

The §170.314 g.2 Inspection Test Guide evaluates the capability for a Complete EHR or EHR Module to electronically record the numerator and denominator for each meaningful use objective with a percentage-based measure, to calculate the resulting percentage, and to create a report that includes the numerator, denominator, and resulting percentage associated with each applicable meaningful use measure.

The applicable percentage-based meaningful use measures are from the Centers for Medicare & Medicaid Services (CMS) Final Rule for the Medicare and Medicaid Programs Electronic Health Record Incentive Program – Stage 2 and the Centers for Medicare & Medicaid Services (CMS) Final Rule for the Medicare and Medicaid Programs Electronic Health Record Incentive Program – Stage 1.

The test data are supplied by ONC and the Vendor, solely or in combination per the instructions within the test data narrative for each meaningful use measure.

Per the ONC final rule, the test procedure requires testing of all capabilities necessary to support EPs, EHs, and CAHs in measuring the numerator and denominator where CMS has provided flexibility in its final rule. The test procedure requires Vendors to identify and be tested on each method by which the numerator and denominator can be populated. For example, a Vendor with EHR technology that allows EPs, EHs, and CAHs to provide clinical summaries via portal, printed copy, and secure email, the Tester must test the capability for each of the required or available options to be recorded and represented in a report.

Per the CMS final rule, the data elements are recorded in their relevant standard vocabularies designated by the ONC certification criteria.

This test procedure is organized as follows:

- 3 global sections to address required capabilities across any or all modules, that can be demonstrated once for each module, combination of modules, or complete EHR brought for testing
- 19 measure-specific sections to address required capabilities for each measure

Within the global sections, the test procedure addresses the capability of CEHRT to create reports for measures for a specified reporting period, including and not limited to: 90 days, quarters (first, second, third, fourth), and calendar year. For Ambulatory settings, this test procedure addresses the capability of CEHRT to report measures only for patients seen by the EP, where applicable. For Inpatient settings, this test procedure addresses the capability for CEHRT to allow eligible hospitals and critical access hospitals to calculate emergency department (ED) admissions using one of two methods (observation services method vs. all ED visits method).

Within each of the 19 measure-specific sections, the §170.314 g.2 test procedure addresses the capabilities to record and report each measure for both Stage 1 and Stage 2 of meaningful use:

- Record – evaluates the capability to electronically record the numerator and denominator for each meaningful use objective with a percentage-based measure
    - The Vendor identifies the method(s) by which the EHR technology records all numerator and denominator data elements for each measure
    - The Tester records all numerator and denominator data elements for the method(s) by which the EHR technology records the numerator and denominator for each measure
    - If the Vendor indicates that the EHR automatically records all the required values for the numerator and denominator for each measure, the Tester proceeds to create a measure report
    - The Tester verifies that the numerator and denominator recorded are accurate and complete, based on the data elements described in the Inspection Test Guide
    - The Tester repeats the process for each method by which the numerator and denominator may be populated

Within each of the 19 measure-specific sections, the §170.314 g.1 and §170.314 g.2 test procedures address the capabilities to report each measure for both Stage 1 and Stage 2 of meaningful use:

- Report – evaluates the capability to create a report that includes the numerator, denominator, and resulting percentage for §170.314 g.2 and numerator only for §170.314 g.1 associated with each percentage-based meaningful use measure
    - The Vendor enters the test patients designated by the Test Data Scenario 1 for each measure (i.e. Vendor setup prior to testing).
    - Using Vendor-identified functions, the Tester creates a report that includes the numerator, denominator, and resulting percentage for each measure based on a combination of the Vendor-supplied and ONC-supplied test data from Test Data Scenario 1 (baseline measure report)
    - The Tester records the numerator, denominator, and resulting percentage for each measure
    - The Tester selects a range of patients and/or actions for each meaningful use measure from Test Data Scenario 2 to modify the numerator of patients entered from Test Data Section 1; the Tester enters the information for the Test Case(s) selected.
    - The Tester selects a range of patients and/or actions for each meaningful use measure from Test Data Scenario 3 to populate the numerator and denominator of new or existing patients; the Tester enters the information for the Test Case(s) selected
    - The Tester selects a range of patients and/or actions for each meaningful use measure from Test Data Scenario 4 to populate the denominator only of new patients or existing patients; the Tester enters the information for the Test Case(s) selected
    - The Tester selects a range of patients and/or actions for each meaningful use measure from Test Data Scenario 5 that does not populate the numerator or denominator of new or existing patients from Test Data Scenarios 1, 2, 3, and/or 4; the Tester enters the information for the Test Case(s) selected
    - Using Vendor identified functionalities, the Tester creates the report that includes the numerator, denominator, and resulting percentage associated with each percentage-based meaningful use measure based on the Vendor-supplied test data and the Tester-selected Test Case(s) from the ONC-supplied test data (test measure report)
    - The Tester verifies that the increments in the numerator and denominator, and the resulting percentage produced in the “test measure report” are accurate and complete and represent the expected increments in comparison to the “baseline measure report”, based on the Vendor-supplied test data and added Tester-selected test data set from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide for each measure

Both test procedures will include calculation and reporting of data elements that contribute to their respective numerator and denominator exclusions that are captured through the EHR technology. This test procedure will not address the statements that qualify an EP, EH, or CAH for exclusion during the CMS attestation process that cannot be calculated by the EHR technology. The following list identifies

the attestation-based exclusions that an EP, EH, or CAH must state during attestation and that are not addressed through these test procedures:

- eMAR: Any hospital with an average daily Inpatient census of fewer than ten patients
- ePrescribing: Any EP or EH/CAH that does not have a pharmacy within their organization and there are no pharmacies that accept electronic prescriptions within 10 miles of the EP's/EH's practice location at the start of his/her EHR reporting period
- Imaging: No access to electronic imagining results at the start of the EHR reporting period
- Secure Messaging: Any EP who conducts 50 percent or more of his or her patient encounters in a county that does not have 50 percent or more of its housing units with 3Mbps broadband availability according to the latest information available from the FCC on the first day of the EHR reporting period
- Vitals: Any EP who believes that all 3 vital sign elements are out of scope

REFERENCED STANDARDS

None

DERIVED TEST REQUIREMENTS – GLOBAL

These DTRs must be completed once (as applicable for the Ambulatory or Inpatient setting) for the Complete EHR or any modules tested using this test procedure. The starting page number for each global DTR is listed below:

DERIVED TEST REQUIREMENTS – MEASURE-SPECIFIC

Each DTR includes a measure description, informative test description, CMS final rule references, English statements (narrative description of the measure), measure elements (a listing of data that may be needed to calculate the measure), and test data narrative for each measure. The starting page number for each measure-specific DTR is listed below:

DERIVED TEST REQUIREMENTS - GLOBAL

The following Global Derived Test Requirements shall be tested for both 170.314(g)(1) Automated numerator recording and 170.314(g)(2) Automated measure calculation for the Ambulatory setting and Inpatient setting, except where expressly noted.

DTR170.314.g2 – 1: Adjust Reporting Period and Stage

Required Vendor Information

VE170.314.g2 – 1.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall identify at least one measure and corresponding test data for this test and create test patients to be used for this test as indicated in TD170.314g1/g2 (Populate numerator and/or denominator)

VE170.314.g2 – 1.02: Vendor shall identify the EHR function(s) available to specify the reporting period for the numerator recording (g1) or measure calculation (g2) report by adjusting report date settings

VE170.314.g2 – 1.03: Vendor shall identify the EHR function(s) available to specify Stage 1 and Stage 2 reporting for numerator recording (g1) or measure calculation (g2)

Required Test Procedure:

TE170.314.g2 – 1.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in the selected measure's Test Data Set-Up

TE170.314.g2 – 1.02: Using Vendor identified EHR functions, the Tester causes the EHR to demonstrate the capability to create a report for the following reporting periods (at a minimum):

- 90 continuous days
- Calendar year quarters (first, second, third, fourth)
- Calendar year

TE170.314.g2 – 1.03: Using Vendor identified EHR functions, the Tester causes the EHR to demonstrate the capability to create select and create report(s) for both Stage 1 and Stage 2 of Meaningful Use

Inspection Test Guide for g1 and g2:

IN170.314.g2 – 1.01: The Tester shall verify that the Vendor is able to accurately adjust the reporting period types in TE170.314.g2 – 1.02 and that the numerator (g1, g2) and denominator (g2) information is accurate and complete for each reporting period and Meaningful Use stage

DTR170.314.g2 – 2: Attribute Measure Actions to Appropriate Ambulatory Provider (Ambulatory Only)

For EPs where the measure is attributed to actions performed specifically by the EP for a patient, this test ensures that the EHR has the capability to attribute relevant actions within an EHR to populate the numerator and/or denominator for the EP. If a patient is seen by multiple EPs or has a non-EP office visit using CEHRT during a reporting period, this test verifies that the numerator recording or automated measure calculation is able to differentiate between providers (or other staff) who perform actions that trigger populating the numerator and/or denominator and attribute the actions accurately. This test applies for testing of CEHRT in the Ambulatory setting only.

Required Vendor Information

VE170.314.g2 – 2.01: The Vendor shall identify at least one test patient

VE170.314.g2 – 2.02: The Vendor shall identify at least two Eligible Professionals (EPs) for this test

VE170.314.g2 – 2.03: Using Vendor-supplied test data, the Vendor shall identify at least one measure and corresponding test data for this test

VE170.314.g2 – 2.04: The Vendor shall create test data for the patient(s) and EPs identified in VE170.314.g2 – 2.01 and VE170.314.g2 – 2.02 for the measure identified in VE170.314.g2 – 2.03

VE170.314.g2 – 2.05: The Vendor shall identify the EHR function(s) to select the EP for reporting of the selected numerator recording (g1) or automated measure calculation (g2)

Required Test Procedure:

TE170.314.g2 – 2.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report for two Eligible Professionals that includes the test data input in VE170.314.g2 – 2.04

TE170.314.g2 – 2.02: The Tester causes the EHR to increment the numerator of patients entered for one of the two Eligible Professionals

TE170.314.g2 – 2.03: Using Vendor identified EHR functions, the Tester causes the EHR to create a report both Eligible Professionals

TE170.314.g2 – 2.04: The Tester shall verify that a report that includes the numerator, denominator, and resulting percentage (g2) or a numerator recording report (g1) is created correctly and without omission, based on the Vendor-supplied test data and actions performed in TE170.314.g2 – 2.02, and reflects the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results for the Eligible Professional for whom the numerator contains expected incremental increases

Inspection Test Guide for g2

IN170.314.g2 – 2.01: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as

indicated in the Test Data Set Up and Test Data Modification for the Eligible Professional for whom the numerator contains expected incremental increases

Inspection Test Guide for g1

IN170.314.g1 – 2.01: The Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 2.02: The Tester shall verify that the report reflects the expected results for the increment in the "Numerator Recorded" column for the appropriate Eligible Professional and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 2.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for numerator Increment for the appropriate Eligible Professional

DTR170.314.g2 - 3: Select Method to Determine Admissions (Inpatient Only)

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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 there are two methods for calculating inpatient admissions: "We proposed that admissions to the eligible hospital or CAH can be calculated using one of two methods currently available under Stage 1 of meaningful use.

- The observation services method
  - includes all patients admitted to the inpatient department (POS 21) either directly or through the emergency department and patients who initially present to the emergency department (POS 23) and receive observation services….
  - Patients who receive observation services under both the outpatient department (POS 22) and emergency department (POS 23) should be included in the denominator under this method.
- The all emergency department method
  - includes all patients admitted to the inpatient department (POS 21) either directly or through the emergency department and all patients receiving services in the emergency department (POS 23)."

This test procedure tests the capability of CEHRT to provide the capability for the Eligible Hospital or Critical Access Hospital (EH/CAH) to select either method for calculating admissions. The Vendor shall select a single approach for calculating admission for use in testing measure-specific derived test requirements.

Required Vendor Information

VE170.314.g – 3.01: Vendor shall provide the test data necessary to record admission information for test patients during a vendor-identified reporting period:

- (A) Direct admission to inpatient department (POS 21)
- (B) Admitted to the ED and then admitted to the inpatient department (POS 23)
- (C) Admitted to the ED and discharged from the ED (POS 23)
- (D) Admitted to the ED and received observation services and then admitted to the inpatient department (POS 23)
- (E) Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)

VE170.314.g – 3.02: The Vendor shall identify the EHR function(s) to select the reporting of the selected numerator recording (g1) or automated measure calculation (g2) using either the "Observation Services Method" or "All ED Visits Method"

Required Test Procedure

TE170.314.g2 – 3.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170314.g2 – 3.01

TE170.314.g2 – 3.02: Using Vendor identified EHR functions, the Tester causes the EHR to generate reports using both methods for inpatient admission:

- Observation Services Method
- All ED Visits Method

TE170.314.g2 – 3.03: Using the Inspection Test Guide, the Tester shall verify that the methods and reports to calculate inpatient admission are complete and accurate

Inspection Test Guide for g1 and g2

IN170.314.g2 – 3.01: The Tester shall verify that the Vendor include patients and encounter information for all scenarios identified in TD170.314.g2 – 3.01:

- (A) Direct admission to inpatient department (POS 21)
- (B) Admitted to the ED and then admitted to the inpatient department (POS 23)
- (C) Admitted to the ED and discharged from the ED (POS 23)
- (D) Admitted to the ED and received observation services and then admitted to the inpatient department (POS 23)
- (E) Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)

IN170.314.g2 – 3.02: The Tester shall verify that calculation of the Observation Services Method is accurate and includes test patients with:

- (A) Direct admission to inpatient department (POS 21)
- (D) Admitted to the ED and received observation services and then admitted to the inpatient department (POS 23)
- (E) Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)

IN170.314.g2 – 3.03: The Tester shall verify that calculation of the All ED Visits Method is accurate and includes test patients with:

- (A) Direct admission to inpatient department (POS 21)
- (B) Admitted to the ED and then admitted to the inpatient department (POS 23)
- (C) Admitted to the ED and discharged from the ED (POS 23)
- (D) Admitted to the ED and received observation services and then admitted to the inpatient department (POS 23)

DERIVED TEST REQUIREMENTS – MEASURE-SPECIFIC

DTR170.314.g2 – 4: Problem List

Measure Description

Stage 1 Measure:

- EP: More than 80 percent of all unique patients seen by the EP during the EHR reporting period have at least one entry or an indication that no problems are known for the patient recorded as structured data
- EH/CAH: More than 80 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have at least one entry or an indication that no problems are known for the patient recorded as structured data

Measure–specific Informative Test Description:

This test procedure evaluates the capability of the EHR to populate the numerator when a problem or an indication of no known problems is documented on a patient's problem list.

The test data set for the Stage 1 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the problems within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program [Stage 1]; Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2011 Edition; Final Rule:

- "Our intent is not to dictate the exact wording of the specific value [in the problem list]. Rather we are focused on the overall goal of making a distinction between a blank list because a patient does not have known problems and a blank list because either no inquiry of the patient has been made, or problems have been recorded through other means."
- "The term 'up-to-date' means the list is populated with the most recent diagnosis known by the EP, eligible hospital, or CAH. This knowledge could be ascertained from previous record, transfer of information from other providers, or querying the patient."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who have at least one entry or an indication that no problems are known recorded as structured data in their problem list
- Denominator: For a given reporting period, number of unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator who have at least one entry or an indication that no problems are known recorded as structured data in their problem list
- Denominator: For a given reporting period, number of unique patients admitted to an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Problem
  - No known problem
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by EP

Inpatient:

- Numerator:
  - Problem
  - No known problem
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 4.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Problem List - MU1 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 4.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 4.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Problem List - MU1 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 4.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 4.01 and the resulting percentage

TE170.314.g2 – 4.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Problem List – MU1 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 4.01

TE170.314.g2 – 4.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Problem List – MU1 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients from TE170.314.g2 – 4.03

TE170.314.g2 – 4.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Problem List – MU1 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 4.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Problem List – MU1 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients from TE170.314.g2 – 4.01

TE170.314.g2 – 4.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 4.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 4.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 4.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 4.03: Using the information provided in TD170.314.g1/g2 - Problem List, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 4.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314.g1/g2 - Problem List

Inspection Test Guide for g1

IN170.314.g2 – 4.01: Using the information provided in TD170.314.g1/g2 - Problem List, the Tester shall verify that a report including the numerator is created correctly and without

	omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314.g1 – 4.02:	The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Problem List and verify the expected results include an individual data element level reference to date and time
IN170.314.g1 – 4.03:	If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Problem List

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the problem list entries. The test data for Problem List represent a combination of new and existing patients for which Problem List entries will be provided.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter when Problem List entries will be provided.

The test data only applies to the Stage 1 measure, as the Problem List objective is no longer a stand-alone measure for Stage 2 of meaningful use. The objective/measure and associated test data are the same in both the Ambulatory and Inpatient settings.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314g1/g2 – Problem List – MU1-1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that a Problem List entry has already triggered the numerator to be recorded, regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios test data scenarios.

- TD170.314g1/g2 – Problem List – MU 1 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in 170.314g1/g2 – Problem List– MU 1 – 1
- TD170.314g1/g2 – Problem List – MU 1 – 3: Tester shall select a minimum of 1 Test Case
- TD170.314g1/g2 – Problem List – MU 1 – 4: Tester shall select a minimum of 1 Test Case
- TD170.314g1/g2 – Problem List – MU 1 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a “test measure report” that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients seen by the EP or unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period; an entry in the Problem List will populate the numerator if it is recorded by the EP/EH/CAH before, during or after the reporting period
- No are exclusions represented in this test data set

DTR170.314.g2 – 5: Medication List

Measure Description

Stage 1 Measure:

- EP: More than 80 percent of all unique patients seen by the EP during the EHR reporting period have at least one medication entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data
- EH/CAH: More than 80 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have at least one medication entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data

Measure–specific Informative Test Description:

This test procedure evaluates the capability of the EHR to populate the numerator when a medication or an indication of no known medication prescribed is documented on a patient's medication list.

The test data set for the Stage 1 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the medications within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program [Stage 1]; Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2011 Edition; Final Rule:

- "We define an active medication list as a list of medications that a given patient is currently taking."
- "…we clarify that the indication of 'none' should distinguish between a blank list that is blank because a patient is not on any known medications and a blank list because no inquiry of the patient has been made."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who have at least one entry or an indication that no medications are prescribed recorded as structured data in their medication list
- Denominator: For a given reporting period, number of unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator who have at least one entry or an indication that no medications are prescribed recorded as structured data in their medication list

- Denominator: For a given reporting period, number of unique patients admitted to an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Medication(s) on medication list
  - No known medications
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by EP

Inpatient:

- Numerator:
  - Medication(s) on medication list
  - No known medications
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 5.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Medication List - MU1 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 5.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 5.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Medication List - MU1 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 5.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 5.01 and the resulting percentage

TE170.314.g2 – 5.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication List – MU1 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 5.01

TE170.314.g2 – 5.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication List – MU1 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients from TE170.314.g2 – 5.03

TE170.314.g2 – 5.05: The Tester selects one or more Test Cases from TD170.314g1/g2 – Medication List – MU1 – 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 5.06: The Tester selects one or more Test Cases from TD170.314g1/g2 – Medication List – MU1 – 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 5.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 5.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 5.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all tester selected test patients and/or actions

IN170.314.g2 – 5.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 5.03: Using the information provided in TD170.314g1/g2 – Medication List, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 5.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 – Medication List

Inspection Test Guide for g1

IN170.314.g1 – 5.01: Using the information provided in TD170.314.g1/g2 - Medication List, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 5.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Medication List and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 5.03: If the EHR technology has the capability to report the numerator value the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Medication List

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the medication list entries. The test data for Medication List represent a combination of new and existing patients for which a medication list entry is recorded.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter when medication list entries will be recorded.

This test data only applies to the Stage 1 measure, as the Medication List objective is no longer a stand-alone measure for Stage 2 of meaningful use. This test data are the same in both Inpatient and Ambulatory settings.

Prior to the test, the Vendor will enter all patients and associated actions in TD 170.314g1/g2 – Medication List – MU 1 –1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that a medication list entry has already triggered the numerator to be recorded, regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios test data scenarios.

- TD170.314g1/g2 – Medication List – MU 1 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in 170.314g1/g2 – Medication List– MU 1 – 1
- TD170.314g1/g2 – Medication List – MU 1 – 3: Tester shall select a minimum of 1 Test Case
- TD170.314g1/g2 – Medication List – MU 1 – 4: Tester shall select a minimum of 1 Test Case
- TD170.314g1/g2 – Medication List – MU 1 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

- Additionally, the denominator is confined to unique patients seen by the EP or admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period; a medication list entry will populate the numerator if it is recorded by the EP/EH/CAH before, during or after the reporting period.

No are exclusions represented in this test data set

DTR170.314.g2 – 6: Medication Allergy List

Measure Description

Stage 1 Measure:

- EP: More than 80 percent of all unique patients seen by the EP during the EHR reporting period have at least one medication allergy entry (or an indication that the patient has no known medication allergies) recorded as structured data
- EH/CAH: More than 80 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have at least one medication allergy entry (or an indication that the patient has no known medication allergies) recorded as structured data

Measure–specific Informative Test Description:

This test procedure evaluates the capability of the EHR to populate the numerator when a medication or an indication of no known medication allergies prescribed is documented on a patient's medication allergy list.

The test data set for the Stage 1 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the medication allergies within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program [Stage 1]; Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2011 Edition; Final Rule:

- "We adopt the commonly held definition of an allergy as an exaggerated immune response or reaction to substances that are generally not harmful."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who have at least one entry or an indication of no known medication allergies recorded as structured data in their medication list
- Denominator: For a given reporting period, number of unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator who have at least one entry or an indication of no known medication allergies recorded as structured data in their medication list
- Denominator: For a given reporting period, number of unique patients admitted to an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Medication allergy
  - No known medication allergies
- Denominator:
  - Report period start and end date
  - Unique patient seen by EP

Inpatient:

- Numerator:
  - Medication allergy
  - No known medication allergies
- Denominator:
  - Report period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 6.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 – Medication Allergy List – MU1 – 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 6.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 6.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 – Medication Allergy List – MU1 – 1: Test Data Set-Up for New Patient

TE170.314.g2 – 6.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 6.01 and the resulting percentage

TE170.314.g2 – 6.03: The Tester selects one or more Test Cases from TD170.314g1/g2 – Medication Allergy List – MU1 – 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 6.01

TE170.314.g2 – 6.04: The Tester selects one or more Test Cases from TD170.314g1/g2 – Medication Allergy List – MU1 – 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 6.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication Allergy List – MU1 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 6.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication Allergy List – MU1 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients from

TE170.314.g2 – 6.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 6.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 6.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 6.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 6.03: Using the information provided in TD170.314g1/g2 - Medication Allergy List, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 6.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Medication Allergy List

Inspection Test Guide for g1

IN170.314.g1 – 6.01: Using the information provided in TD170.314.g1/g2 – Medication Allergy List, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 6.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Medication Allergy List and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 6.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Medication Allergy List

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the medication allergy list entries. The test data for Medication Allergy List represent a combination of new and existing patients for which a medication allergy list entry is recorded.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter when a medication allergy list entry will be recorded.

The test data only applies to the Stage 1 measure, as the Medication Allergy List objective is no longer a stand-alone measure for Stage 2 of meaningful use. This test data are the same in both Inpatient and Ambulatory settings.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314g1/g2 – Medication Allergy List – MU1—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that a medication allergy list entry has already triggered the numerator to be recorded, regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios test data scenarios.

- TD170.314g1/g2 – Medication Allergy List – MU1 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in TD170.314g1/g2 – Medication Allergy List– MU 1 – 1
- TD170.314g1/g2 – Medication Allergy List– MU1 – 3: Tester shall select a minimum of 1 Test Case
- TD170.314g1/g2 – Medication Allergy List – MU1 – 4: Tester shall select a minimum of 1 Test Case

- TD170.314g1/g2 – Medication Allergy List – MU1 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a “test measure report” that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients seen by the EP or admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period; a medication allergy list entry will populate the numerator if it is recorded by the EP/EH/CAH before, during or after the reporting period
- No are exclusions represented in this test data set

DTR170.314.g2 – 7: Computerized Provider Order Entry (CPOE)

Measure Description

Stage 1 Measure:

- EP: More than 30 percent of unique patients with at least one medication in their medication list seen by the EP during the EHR reporting period have at least one medication order entered using CPOE
- EP: More than 30 percent of medication orders created by the EP during the EHR reporting period are recorded using CPOE (Alternative measure - effective 2013)
- EH/CAH: More than 30 percent of unique patients with at least one medication in their medication list admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have at least one medication order entered using CPOE
- EH/CAH: More than 30 percent of medication orders created by authorized providers of the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period are recorded using CPOE (Alternative measure - effective 2013)

Stage 2 Measure:

- EP: More than 60 percent of medication orders, 30 percent of laboratory orders, and 30 percent of radiology orders created by the EP during the EHR reporting period are recorded using computerized provider order entry
- EH/CAH: More than 60 percent of medication orders, 30 percent of laboratory orders, and 30 percent of radiology orders created by authorized providers of the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period are recorded using computerized provider order entry

Measure–specific Informative Test Description:

Per the CMS Final Rule, in addition to medication orders included in the Stage 1 measure, the Stage 2 measure for CPOE includes laboratory and radiology orders for Ambulatory and Inpatient EHR technology. This test procedure evaluates an EHR technology's capability to support an alternate Stage 1 measure that populates the denominator with the number of an EP's medication orders, in addition to the Stage 1 measure that populates the denominator with the number of patients with a medication entered in their medication list. The alternate measure is optional for EPs to report at any year in Stage 1.

Per the CMS Final Rule, this test procedure will require vendors to accommodate EP/EH/CAH policy to exclude standing orders from the Stage 2 measure denominator. The test procedure for CPOE does not test if a non-authorized provider has used CPOE to populate the numerator. In DTR170.314.g2 – 2, this test procedure evaluates that the EHR technology can attribute relevant actions to the correct provider(s), such as entering medication, laboratory, and radiology orders.

The test data for the Stage 1 and Stage 2 measures is both ONC and Vendor-supplied. ONC provides the test data scenarios and Test Cases. The Vendor supplies the order details within the parameters for the Tester-selected test case.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "Furthermore, it is our understanding from both commenters and our own experiences with CEHRT that many EHRs use the entry of the order as the trigger for CDS interventions and either display them again at authorization or do not display them at all at authorization. For these reasons, we continue to focus the definition and measurement of CPOE on when and by whom the order is entered into CEHRT and not on when it is authorized by the ordering provider in CEHRT."
- "Therefore, we are not finalizing the proposed revised description of when the CPOE function must be utilized during the ordering process and instead finalize our existing Stage 1 description that the CPOE function should be used the first time the order becomes part of the patient's medical record and before any action can be taken on the order."
- "We are finalizing the alternative denominator for this measure and specify that providers at any year in Stage 1 may elect to use either the denominator defined in the Stage 1 final rule or the alternative denominator to calculate the percentage for the CPOE measure. In response to comments, we are not requiring that the alternative denominator be used beginning in 2014, which will give providers who may find it difficult to measure the flexibility to continue to use the denominator defined in the Stage 1 final rule."
- "We therefore allow providers to exclude orders that are predetermined for a given set of patient characteristics or for a given procedure from the calculation of CPOE numerators and denominators. Note this does not require providers to exclude this category of orders from their numerator and denominator. We foresee two circumstances where a provider would not want to exclude this category of orders. The first is that they disagree that these type of orders warrant different considerations and therefore enter them according to our description of CPOE. The second is providers who are unable to separate them from other orders in their calculation of the denominator and numerator."
- "CPOE is the entry of the order into the patient's EHR that uses a specific function of CEHRT. It is not how that order is filled or otherwise carried out. For medications, on the ambulatory side CPOE feeds into e-prescribing, and on the hospital side electronic medication administration record may be used, but neither of these are requirements for CPOE. For example, a medication could be entered into CEHRT using CPOE and then be electronically transmitted to a pharmacy. This would be both CPOE and e-prescribing. However, a medication could be entered into CEHRT using CPOE and then a printed copy of the prescription could be generated by CEHRT and given to the patient. This would still be CPOE, but not e-prescribing. Similarly, whether the

ordering of laboratory or radiology services using CPOE in fact results in the order being transmitted electronically to the laboratory or radiology provider does not dictate whether CPOE was met. CPOE is a step in a process that takes place in both hospital and ambulatory settings, and we continue to believe it is relevant to both settings."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator that have at least one medication order entered using CPOE
- Denominator: For a given reporting period, number of unique patients with at least one medication in their medication list seen by an EP
- Denominator: For a given reporting period, number of medication orders created by an EP (Alternative measure - effective 2013)

Inpatient:

- Numerator: The number of patients in the denominator that have at least one medication order entered using CPOE
- Denominator: For a given reporting period, number of unique patients with at least one medication in their medication list admitted to the eligible hospital's or CAH's Inpatient or emergency department
- Denominator: For a given reporting period, number of medication orders created by an authorized provider from an Inpatient setting (POS 21 or 23) (Alternative measure - effective 2013)

Stage 2 Measure English Statements:

Ambulatory:

- Medication orders (applies to Stage 1 alternative measure)
    - Numerator: Number of medication orders in the denominator recorded using CPOE
    - Denominator: For a given reporting period, number of medication orders created by an EP
- Radiology orders
    - Numerator: Number of radiology orders in the denominator recorded using CPOE
    - Denominator: For a given reporting period, number of radiology orders created by an EP
- Laboratory orders
    - Numerator: Number of laboratory orders in the denominator recorded using CPOE
    - Denominator: For a given reporting period, number of laboratory orders created by an EP

Inpatient:

- Medication orders
    - Numerator: Number of medication orders in the denominator recorded using CPOE

- Denominator: For a given reporting period, number of medication orders created by an authorized provider from an Inpatient setting (POS 21 or 23)

- Radiology orders
  - Numerator: Number of radiology orders in the denominator recorded using CPOE
  - Denominator: For a given reporting period, number of radiology orders created by an authorized provider from an Inpatient setting (POS 21 or 23)
- Laboratory orders
  - Numerator: Number of laboratory orders in the denominator recorded using CPOE
  - Denominator: For a given reporting period, number of laboratory orders created by an authorized provider from an Inpatient setting (POS 21 or 23)

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Medication order recorded using CPOE
- Denominator:
  - Reporting period start and end date
  - Unique patient with at least one medication on their medication list seen by the EP
- Alternative Denominator (Effective 2013):
  - Reporting period start and end date
  - Medication order created by EP

Inpatient:

- Numerator:
  - Medication order recorded using CPOE
- Denominator:
  - Reporting period start and end date
  - Unique patient with at least one medication on their medication list admitted to POS 21 or 23
- Alternative Denominator (Effective 2013):
  - Reporting period start and end date
  - Medication order created by an authorized provider within POS 21 or 23

Stage 2 Measure Elements:

Ambulatory:

- Medication orders:
  - Numerator:
    - Medication order recorded using CPOE
  - Denominator:
    - Reporting period start and end date

        - Medication order created by EP
- Laboratory orders:
    - Numerator:
        - Laboratory order recorded using CPOE
    - Denominator:
        - Reporting period start and end date
        - Laboratory order created by EP
- Radiology orders:
    - Numerator:
        - Radiology order recorded using CPOE
    - Denominator:
        - Reporting period start and end date
        - Radiology order created by EP

Inpatient:

- Medication orders:
    - Numerator:
        - Medication order recorded using CPOE
    - Denominator:
        - Reporting period start and end date
        - Medication order created by an authorized provider within POS 21 or 23
- Laboratory orders:
    - Numerator:
        - Laboratory order recorded using CPOE
    - Denominator:
        - Reporting period start and end date
        - Laboratory order created by an authorized provider within POS 21 or 23
- Radiology orders:
    - Numerator:
        - Radiology order recorded using CPOE
    - Denominator:
        - Reporting period start and end date
        - Radiology order created by an authorized provider within POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 7.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - CPOE - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 7.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 7.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - CPOE - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 7.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 7.01 and the resulting percentage

- Stage 1 (Medications Only)
- Stage 2 (Medications, Laboratory, Radiology)

TE170.314.g2 – 7.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - CPOE – MU1 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 7.01 (Stage 1 only)

TE170.314.g2 – 7.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - CPOE – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 7.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - CPOE – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 7.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - CPOE – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 7.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 7.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

- Stage 1 (Medications Only)
- Stage 2 (Medications, Laboratory, Radiology)

TE170.314.g2 – 7.09: Using Vendor identified EHR functions, the Tester causes the EHR to demonstrate the capability to calculate Stage 1 measures using the alternative denominator

Inspection Test Guide for g2

IN170.314.g2 – 7.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions
- Stage 1 (Medications Only)
- Stage 2 (Medications, Laboratory, Radiology)

IN170.314.g2 – 7.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 7.03: Using the information provided in TD170.314.g1/g2 - CPOE, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission
- Stage 1 (Medications Only)
- Stage 2 (Medications, Laboratory, Radiology)

IN170.314.g2 – 7.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314.g1/g2 - CPOE

IN170.314.g2 – 7.05: The Tester shall verify that the Vendor is able to accurately calculate the Stage 1 CPOE measure for medication orders using the alternative denominator (using the expected results for Stage 2)

Inspection Test Guide for g1

IN170.314.g1 – 7.01: Using the information provided in TD170.314.g1/g2 - CPOE, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 7.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – CPOE and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 7.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – CPOE

Test Data Narrative

The test data for the Stage 1 and Stage 2 measures is both ONC and Vendor-supplied. ONC provides the test data scenarios and Test Cases. The Vendor supplies the order details within the parameters for each Test Case. All Test Cases in the first test data scenario (1: Test Data Set-Up for New Patient – populate numerator and/or denominator) are performed by the Vendor during set up prior to testing.

During the test, the Tester will select the Test Cases within test data scenarios 2 through 5 to be performed by the Vendor. The Vendor will supply the medication, laboratory, and radiology order details.

The measure requirements for Stage 1 and Stage 2 are different. Individual Test Cases or test data parameters are provided to support testing of each stage within the test data set. The Ambulatory and Inpatient test data are the same for this measure.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314g1/g2 - CPOE – MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator). The Tester will create a "baseline measure report" and record the numerator, denominator, and the resulting percentage values.

For 170.314g1, the test data indicates where the report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios.

- 170.314g1/g2 – CPOE – MU1 – 2: Tester shall select one or more test data scenarios in this section; this will be a test data scenarios entered by the Vendor in 170.314g1/g2 – CPOE– MU1/MU2 – 1
    - The use of "-" in the Stage 2 test data of this section indicates there is no instance where the numerator can be populated without populating the denominator
- TD170.314g1/g2 – CPOE – MU1/MU2 – 3: Tester shall select one or more test data scenarios
- TD170.314g1/g2 – CPOE – MU1/MU2 – 4: Tester shall select one or more test data scenarios
- TD170.314g1/g2 – CPOE – MU1/MU2 – 5: Tester shall select one or more test data scenarios

The Tester will create a "test measure report" that reflects the executed Test Cases and record the numerator, denominator, and the resulting percentage values.

Additionally,

- The Stage 2 denominator is confined to the number of orders created during the EHR reporting period; the number of orders entered using CPOE will populate the numerator if it is recorded by the EP or EH/CAH (POS 21 and POS 23) during the reporting period
- No exclusions are represented in the test data set
- Laboratory and Radiology test data parameters are populated with "-" for Stage 1 as these orders are out of scope for Stage 1
- The Vendor must provide the capability to perform both the Stage 1 denominator and the alternative denominator. The provider may elect to use the alternative stage 1 measure in 2013 and onward

DTR170.314.g2 – 8: Electronic Prescribing (eRx)

Measure Description

Stage 1 Measure:

- EP: More than more than 40 percent of all permissible prescriptions written by the EP during the EHR reporting period are transmitted electronically using Certified EHR Technology
- EH/CAH: None

Stage 2 Measure:

- EP: More than 50 percent of all permissible prescriptions, or all prescriptions written by the EP and queried for a drug formulary and transmitted electronically using Certified EHR Technology
- EH/CAH: More than 10 percent of hospital discharge medication orders for permissible prescriptions (for new, changed and refilled prescriptions) during the EHR reporting period are queried for a drug formulary and transmitted electronically using Certified EHR Technology

Measure–specific Informative Test Description:

This test procedure evaluates the capability of an EHR to record the number of prescriptions written by the EP in an Ambulatory setting or discharge medication orders in an Inpatient setting and report the number of prescriptions transmitted electronically using Certified EHR Technology. Per the CMS final rule, the existence of a drug formulary must be queried to populate the Stage 2 numerator for permissible prescriptions written. In this test procedure, the Vendor will demonstrate the capability to query a drug formulary for prescriptions written.

If the EHR technology presented for certification allows the EP to transmit controlled substances, the EHR technology must be evaluated for the capability to prescribe a controlled substance and populate the numerator.

The test procedure does not evaluate prescriptions transmitted within and outside of an EP's organization.

This measure allows for an exclusion in Stage 1 and Stage 2 if the EP/EH/CAH does not have a pharmacy within their organization and there are no pharmacies that accept electronic prescriptions within 10 miles of the EP's/EH's practice location at the start of his/her EHR reporting period. This exclusion is new for the Stage 1 and Stage 2 measures. The EHR presented for certification will not be evaluated for the capability to indicate proximity to pharmacies.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the prescriptions within the parameters for the Tester-selected test data set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "…we are also adding an alternative denominator to provide additional flexibility for EPs who are able to electronically prescribe controlled substances and want to count these prescriptions in the measure."
- "Therefore, we require not that the CEHRT check each prescription against a formulary relevant for a given patient, but rather that the CEHRT check each prescription for the existence of a relevant formulary. If a relevant formulary is available, then the information can be provided. We believe that this initial check is essentially an on or off function for the CEHRT and should not add to the measurement burden. Therefore, with this clarification of the check we are referring to, we are finalizing the drug formulary check as a component of this measure."
- "Therefore, we are not imposing this limitation and include new, altered, and refill prescriptions in the measure of discharge medication orders for permissible prescriptions."
- "The hospital would include in the numerator and denominator both types of electronic transmission (those within and outside the organization) for the measure of this objective. We further clarify that for purposes of counting discharge prescriptions "generated and transmitted electronically," we considered the generation and transmission of prescriptions to occur simultaneously if the prescriber and dispenser are the same person and/or are accessing the same record in an integrated EHR to create an order in a system that is electronically transmitted to an internal pharmacy."
- "We are therefore finalizing that if no pharmacies within a 10-mile radius of an EP's practice location or at the start of the EHR reporting period accepts electronic prescriptions, the EP would qualify for this exclusion, unless the EP is part of an organization that owns or operates pharmacy within the 10-mile radius."
- "Hospitals that do not have an internal pharmacy and that are located 10 miles from a pharmacy that can receive electronic prescriptions at the start of the EHR reporting period would be able to claim the exclusion for this measure."

Stage 1 Measure English Statements:

For EHR technology presented for certification:

Ambulatory:

- Numerator: Number of prescriptions in the denominator transmitted electronically.
- Denominator: Number of prescriptions written for drugs requiring a prescription in order to be dispensed, excluding controlled substances, during the EHR reporting period.

Inpatient: None

Stage 2 Measure English Statements:

Ambulatory: for EHR technology that allows the EP to transmit controlled substances

- Numerator: Number of prescriptions in the denominator generated, queried for the existence of a drug formulary, and transmitted electronically
- Denominator: Number of prescriptions written for drugs requiring a prescription in order to be dispensed, during the EHR reporting period

Ambulatory: for EHR technology that does not allow the EP to transmit controlled substances

- Numerator: Number of prescriptions in the denominator generated, queried for the existence of a drug formulary, and transmitted electronically
- Denominator: Number of prescriptions written for drugs requiring a prescription in order to be dispensed, excluding controlled substances, during the EHR reporting period

Inpatient:

- Numerator: Number of prescriptions in the denominator generated, queried for the existence of a drug formulary, and transmitted electronically
- Denominator: Number of new, changed, or refill prescriptions written for drugs requiring a prescription in order to be dispensed for patients discharged, excluding controlled substances, during the EHR reporting period

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
    - Prescription generated and transmitted electronically
- Denominator:
    - Report period start and end date
    - Prescription written for drug requiring a prescription in order to be dispensed
- Denominator exclusion:
    - Prescription written for controlled substance

Inpatient: None

Stage 2 Measure Elements:

Ambulatory: for EHR technology that allows the EP to transmit controlled substances

- Numerator:
    - Prescription generated, queried for a formulary and transmitted electronically
- Denominator:
    - Reporting period start and end date
    - Prescription written for drugs requiring a prescription in order to be dispensed

Ambulatory: for EHR technology that does not allow the EP to transmit controlled substances

- Numerator:
  - Prescription generated, queried for a drug formulary and transmitted electronically
- Denominator:
  - Reporting period start and end date
  - Prescription written for drugs requiring a prescription in order to be dispensed
- Denominator exclusion:
  - Prescription written for controlled substance

Inpatient:

- Numerator:
  - Prescription generated, queried for a drug formulary and transmitted electronically
- Denominator:
  - Reporting period start and end date
  - Prescription written for drugs requiring a prescription in order to be dispensed
- Denominator exclusion:
  - Prescription written for controlled substance

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 8.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - eRx - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 8.02: Vendor shall identify the EHR function(s) that are available to electronically prescribe controlled substances, if available (Ambulatory only)

VE170.314.g2 – 8.03: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 8.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - eRx - MU1/MU2 - 1: Test Data Set-Up for New Patient, including controlled substances if the capability exists

TE170.314.g2 – 8.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 8.01 and the resulting percentage

TE170.314.g2 – 8.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - eRx – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 8.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - eRx – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 8.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - eRx – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 8.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 8.07: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 8.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 8.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 8.03: Using the information provided in TD170.314g1/g2 - eRx, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 8.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 – eRx

IN170.314.g2 – 8.05: If the Vendor capabilities include electronic prescribing of controlled substances (Ambulatory only), the Tester shall verify that the measures are accurately calculated including and excluding controlled substances

Inspection Test Guide for g1

IN170.314.g1 – 8.01: Using the information provided in TD170.314.g1/g2 - eRx, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 8.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of

TD170.314.g1/g2 – eRx and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 8.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – eRx

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the electronic prescriptions/medications.

The measure requirements for Stage 1 and Stage 2 are different. Stage 1 requires ePrescribing for medications in the Ambulatory setting only. Stage 2 allows ePrescribing controlled substances in the Ambulatory setting only (based on capabilities of vendor) and allows the Inpatient setting to ePrescribe new, changed or refilled prescriptions. Stage 2 requires an enabled drug formulary to query all medication orders. Individual requirements for each stage are indicated in the test data set.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – eRx – MU1/MU2 – 1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – eRx – MU1/MU2 – 2:
    - The use of "-" in the Stage 2 test data of this section indicates there is no instance where the numerator can be populated without populating the denominator.
- 170.314g1/g2 – eRx – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – eRx – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – eRx – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of prescriptions written for drugs requiring a prescription in order to be dispensed (controlled substances - optional) during the EHR reporting period; the number of prescriptions in the denominator generated, queried for a drug formulary and transmitted electronically using CEHRT will populate the numerator if it is recorded by the EP or EH/CAH (POS 21 and POS 23) during the reporting period

- The following exclusions are represented in the test data:
  - Controlled substances
  - Per the CMS final rule, “We agree with the commenters and will continue to exclude controlled substances from the denominator. However, we are also adding an alternative denominator to provide additional flexibility for EPs who are able to electronically prescribe controlled substances and want to count these prescriptions in the measure.”
  - If the EHR technology presented for certification allows the EP to transmit controlled substances, the EHR technology must be evaluated for the capability to prescribe a controlled substance and populate the numerator

DTR170.314.g2 – 9: Demographics

Measure Description

Stage 1 Measure:

- EP: More than 50 percent of all unique patients seen by the EP during the EHR reporting period have demographics recorded as structured data.
- EH/CAH: More than 50 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have demographics recorded as structured data.

Stage 2 Measure:

- EP: More than 80 percent of all unique patients seen by the EP during the EHR reporting period have demographics recorded as structured data.
- EH/CAH: More than 80 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have demographics recorded as structured data.

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to populate the numerator through documentation of the following demographic fields in structured data: preferred language, decline to provide preferred language, sex (gender for Stage 1), race, decline to provide race, ethnicity, decline to provide ethnicity, date of birth, and in Inpatient settings only, date and preliminary cause of death in the event of mortality.

As the certification criterion test procedure for §170.314(a)(3) evaluates an EHR's capability to map additional race and ethnicity categories to the OMB standard for demographics and record more than one race, this test procedure will not evaluate these functionalities with regard to populating the numerator.

The test data set for the Stage 1 and 2 measures is ONC-supplied.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "If a patient declines to provide information of ethnicity or race or if capturing a patient's ethnicity or race is prohibited by state law, this should be duly noted as structured data in the EHR and this would still count as an entry for the purpose of meeting this measure."
- "For purposes of achieving Stage 2 of meaningful use, we will continue to rely on the OMB standard as a minimum standard for the collection of race and ethnicity data. EPs, eligible

hospitals, and CAHs who wish to collect more granular level data on patient race and ethnicity may do so as long as they can map the data to 1 of the 5 races included in the existing OMB standards."

Stage 1 and 2 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator with demographics recorded as structured data
- Denominator: For a given reporting period, the number of unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator with demographics recorded as structured data
- Denominator: For a given reporting period, number of unique patients admitted to the eligible hospital's Inpatient or emergency department (POS 21 or 23)

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator:
    - Race
    - Ethnicity
    - Sex (Gender for Stage 1)
    - Date of Birth
    - Preferred Language
    - Declined Race
    - Declined Ethnicity
    - Declined Preferred Language
- Denominator:
    - Reporting period start and end date
    - Unique patient seen by the EP

Inpatient:

- Numerator:
    - Race
    - Ethnicity
    - Sex (Gender for Stage 1)
    - Date of Birth
    - Preferred Language
    - Declined Race
    - Declined Ethnicity

- Declined Preferred Language
- Date of Expiration (Inpatient only)
- Preliminary Cause of Death (Inpatient only)

- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or POS 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 9.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Demographics - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 9.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 9.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Demographics - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 9.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 9.01 and the resulting percentage

TE170.314.g2 – 9.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Demographics – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 9.01

TE170.314.g2 – 9.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Demographics – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 9.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Demographics – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 9.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Demographics – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 9.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 9.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 9.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 9.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 9.03: Using the information provided in TD170.314g1/g2 - Demographics, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 9.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Demographics

Inspection Test Guide for g1

IN170.314.g1 – 9.01: Using the information provided in TD170.314.g1/g2 - Demographics, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 9.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Demographics and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 9.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the “Numerator Increment” column of TD170.314.g1/g2 – Demographics

Test Data Narrative

The test data set for this measure is ONC-supplied. The test data for Demographics represent a combination of new and existing patients for which demographics will be recorded.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter or action when demographics will be recorded.

The test data for Stage 1 and Stage 2 are the same for this measure. The test data for Inpatient and Ambulatory settings are different. Requirements for each setting are indicated in the test data set. The Inpatient setting requires the date of death and cause of death to be recorded in addition to all data elements required in the Ambulatory setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Demographics – MU1/MU2. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that the recording of demographics has already triggered the numerator to be recorded, regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Demographics – MU 1/ MU 2 – 2: Tester shall select a minimum of 1 Test Case in this section; Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in 170.314g2 – Demographics– MU1/MU2 – 1
- 170.314g1/g2 – Demographics – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Demographics – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case; the use of "-" in this section indicates the Test Case does not populate only the denominator in the Ambulatory setting
- 170.314g1/g2 – Demographics – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients seen by the EP or unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period; recording of demographics will populate the numerator if it is recorded by the EP/EH/CAH before, during or after the reporting period
- No exclusions are represented in this test data set

DTR170.314.g2 – 10: Vital Signs

Measure Description

Stage 1 Measure:

- EP: For more than 50 percent of all unique patients age 2 and over seen by the EP, height, weight and blood pressure are recorded as structured data
- EP: More than 50 percent of all unique patients seen by the EP during the EHR reporting period have blood pressure (for patients age 3 and over only) and height/length and weight (for all ages) recorded as structured data (Optional effective 2013/Required 2014)
- EH/CAH: For more than 50 percent of all unique patients age 2 and over admitted to the eligible hospital's or CAH's Inpatient or emergency department, height, weight and blood pressure are recorded as structured data
- EH/CAH: More than 50 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have blood pressure (for patients age 3 and over only) and height/length and weight (for all ages) recorded as structured data. (Optional effective 2013/Required 2014)

Stage 2 Measure:

- EP: More than 80 percent of all unique patients seen by the EP during the EHR reporting period have blood pressure (for patients age 3 and over only) and height/length and weight (for all ages) recorded as structured data.
- EH/CAH: More than 80 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have blood pressure (for patients age 3 and over only) and height/length and weight (for all ages) recorded as structured data.

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to document if vital signs (height/length, weight, and blood pressure) are recorded as structured data when a provider indicates that it is within scope, to populate the numerator once. Additionally, the test procedure evaluates the EHR technology's capability to support a provider in capturing that height/length and weight or blood pressure are not documented when they are out of scope of practice.

This test procedure evaluates the EHR technology's capability to support EPs who wish to report an alternative, optional measure in 2013 to record blood pressure for patients 3 and older, in addition to recording the blood pressure for patients 2 and older. The alternative Stage 1 measure is optional in 2013 for EPs to report and required in 2014. This measure is required in 2014 for Stage 2.

Additionally, this test procedure evaluates the EHR technology's capability to support EPs who wish to report an alternative, optional Stage 1 measure in 2013 that allows an EP to claim an exclusion from

recording all 3 vital signs if they are believed to be out of scope of practice, claim an exclusion from recording blood pressure if only height and weight are believed to be relevant to scope of practice, and claim an exclusion from recording height and weight if only blood pressure is believed to be relevant to scope of practice. This test procedure does not evaluate an EHR technology's capability to document the occurrence of all three vital signs as out of scope of practice; however, it does require the EHR technology to support providers in documenting when blood pressure only or height and weight only are believed to be out of scope. The alternative Stage 1 exclusions are optional in 2013 for EPs to report and required in 2014. The exclusions are required in 2014 for Stage 2.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the vital sign values within the parameters for the Tester-selected Test Case. During testing, the Vendor will supply values for date of birth in order to meet the age requirement (younger than 2 years) specified in the test data that can support age calculations of younger than 2 or 3 years of age at the date/time of testing.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "Vital Signs--For the objective of record and chart changes in vital signs, the proposed Stage 2 measure would allow an EP to split the exclusion and exclude blood pressure only or height/weight only…We proposed an identical change to the Stage 1 exclusion as well, starting in CY 2013. We also proposed changing the age limitations on vital signs for Stage 2 (for more detail, see the discussion of this objective in the Stage 2 criteria section). We proposed an identical change to the age limitations on vital signs for Stage 1, starting in 2013 (CY for EPs, FY for eligible hospitals/CAHs). These changes to the exclusion and age limitations were proposed as an alternative in 2013 to the current Stage 1 requirements but required for Stage 1 beginning in 2014…We appreciate the support for these changes and finalize them as proposed."
- "We will continue the Stage 1 meaningful use policy that any method of obtaining height, weight and blood pressure is acceptable for the purpose of this objective as long as the information is recorded as structured data in the CEHRT."
- "We will maintain our policy from Stage 1 that it is up to the EP or hospital to determine whether height/length, weight, and blood pressure each need to be updated, the level of accuracy needed to care for their patient, and how best to obtain the vital sign information that will allow for the right care for each patient."
- "We also note that BMI and growth charts are not required to meet this measure but are instead a capability provided by CEHRT. Providers who claim the exclusion for height and weight will not have data for CEHRT to create either BMI or growth charts and this will not affect their ability to meet the measure of this objective….We clarify that to satisfy the measure of this objective, the CEHRT must have the capability to calculate BMI and produce growth charts for patients as

appropriate. Since BMI and growth charts are only produced when height/length and weight vital sign data are captured in the CEHRT, the measure is limited to these data elements."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who have entries of height/length, weight and blood pressure recorded as structured data
- Numerator: Number of patients in the denominator who have entries of height/length and weight recorded as structured data (Effective 2013 for providers for whom blood pressure is out of scope of practice)
- Numerator: Number of patients in the denominator who have an entry of blood pressure as structured data (Effective 2013 for providers for whom height/length and weight are out of scope of practice)
- Numerator: If height/length, weight, and blood pressure (all) within scope of practice (Optional effective 2013; Required effective 2014):
    - Patients 3 years of age and older in the denominator for whom height/length, weight, and blood pressure are recorded
    - Patients younger than 3 years of age in the denominator for whom height/length and weight are recorded
- Denominator: Number of unique patients 2 years of age and older seen by the EP during the EHR reporting period (Effective through 2013 only)
- Denominator: Number of unique patients 3 years of age and older seen by the EP during the EHR reporting period (Optional effective 2013 for providers who claim a scope of practice exclusion, Required effective 2014)

Inpatient:

- Numerator: Number of patients in the denominator who have entries of height/length, weight and blood pressure recorded as structured data
- Denominator: Number of unique patients 2 years of age and older admitted to an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Inpatient (Optional effective 2013; Required effective 2014):

- Numerator:

  For all patients:
    - Patients 3 years of age and older in the denominator for whom height/length, weight, and blood pressure are recorded
    - Patients younger than 3 years of age in the denominator for whom height/length and weight are recorded
- Denominator: Number of unique patients admitted to an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Stage 2 Measure English Statements:

Ambulatory:

- Numerator:
  If height/length, weight, and blood pressure (all) within scope of practice:
  - Patients 3 years of age and older in the denominator for whom height/length, weight, and blood pressure are recorded
  - Patients younger than 3 years of age in the denominator for whom height/length and weight are recorded

  If height/length and weight (only) within scope of practice:
  - Patients in the denominator for whom height/length and weight are recorded

  If blood pressure (only) within scope of practice:
  - Patients in the denominator for whom blood pressure is recorded
- Denominator: Number of unique patients seen by the EP during the EHR reporting period

Inpatient:

- Numerator:
  For all patients:
  - Patients 3 years of age and older in the denominator for whom height/length, weight, and blood pressure are recorded
  - Patients younger than 3 years of age in the denominator for whom height/length and weight are recorded
- Denominator: Number of unique patients admitted to an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Stage 1 Measure Elements:

Ambulatory:

- Numerator
  - Height/length
  - Weight
  - Blood pressure
- Denominator:
  - Reporting period start and end date
  - Unique patient 2 years of age and older seen by the EP during the reporting period

Ambulatory (For Providers with blood pressure out of scope of practice):

- Numerator
  - Height/length
  - Weight
- Denominator:

- Reporting period start and end date
- Unique patient 3 years of age and older seen by the EP during the reporting period

Ambulatory (For Providers with height/length and weight out of scope of practice):

- Numerator
  - Blood pressure
- Denominator:
  - Reporting period start and end date
  - Unique patient 3 years of age and older seen by the EP during the reporting period

Ambulatory (Required effective 2014):

- Numerator
  - Height/length
  - Weight
  - Blood pressure (Age 3 and older)
  - Height/length and weight not documented due to scope of practice
  - Blood pressure not documented due to scope of practice
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP during the reporting period

Inpatient:

- Numerator
  - Height/length
  - Weight
  - Blood pressure
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23 during the EHR reporting period

Inpatient (Optional effective 2013; Required effective 2014):

- Numerator
  - Height/length
  - Weight
  - Blood pressure (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23 during the EHR reporting period

Stage 2 Measure Elements:

Ambulatory:

- Numerator
  - Height/length
  - Weight
  - Blood pressure (Age 3 and older)
  - Height/length and weight not documented due to scope of practice
  - Blood pressure not documented due to scope of practice
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP during the reporting period

Inpatient:

- Numerator:
  - Height/length
  - Weight
  - Blood pressure (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23 during the EHR reporting period

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 10.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Vital Signs - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 10.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

VE170.314.g2 – 10.03: Vendor shall identify the EHR function(s) that are available to 1) record if height/length and weight are out of scope of practice, 2) record if blood pressure is out of scope of practice for a provider, 3) electronically record the numerator and denominator for these measures, and 4) create a report that includes the numerator, denominator, and resulting percentage associated with a provider for whom height/length and weight are out of scope of practice and a provider for whom blood pressure is out of scope of practice (Ambulatory setting only)

Required Test Procedure

TE170.314.g2 – 10.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Vital Signs - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 10.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 10.01 and the resulting percentage

- Stage 1 - Ambulatory
  - All three vitals within scope of practice
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice
  - All three vitals within scope with age limitations on blood pressure
- Stage 2 - Ambulatory
  - All three vitals within scope of practice
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice
- Stage 1 - Inpatient
  - All three vitals (age 2 and over)
  - All three vitals with age limitations on blood pressure
- Stage 2 - Inpatient
  - All three vitals with age limitations on blood pressure

TE170.314.g2 – 10.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Vital Signs – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 10.01

TE170.314.g2 – 10.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Vital Signs – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 10.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Vital Signs – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 10.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Vital Signs – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 10.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report for each of the combinations below that includes the numerator, denominator, and resulting percentage for each of the measures below

- Stage 1 - Ambulatory
  - All three vitals within scope of practice
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice
  - All three vitals within scope with age limitations on blood pressure

- Stage 2 - Ambulatory
  - All three vitals within scope of practice
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice
- Stage 1 - Inpatient
  - All three vitals (age 2 and over)
  - All three vitals with age limitations on blood pressure
- Stage 2 - Inpatient
  - All three vitals with age limitations on blood pressure

TE170.314.g2 – 10.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 10.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 10.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 10.03: Using the information provided in TD170.314g1/g2 - Vital Signs, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 10.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Vital Signs

Inspection Test Guide for g1

IN170.314.g1 – 10.01: Using the information provided in TD170.314.g1/g2 - Vital Signs, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 10.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Vital Signs and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 10.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the

numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Vital Signs

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the values for patient height/length, weight, and/or blood pressure. If the date of birth specified in the test data set no longer fulfills the specified age requirement, the Vendor will supply a date of birth that appropriately fulfills the requirement. The test data for Vital Signs represent a combination of new and existing patients for whom vital signs (height/length, weight, and/or blood pressure) are recorded as structured data.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter or action when vital signs are recorded.

In 2013, Eligible Professionals have the option of using either Stage 1 measure requirements or Stage 2 measure requirements. In 2014, Eligible Professionals will be required to follow the Stage 2 measure requirements. However, Certified EHR Technology must have the capability to take both Stage 1 and Stage 2 measure requirements into account regardless of what Eligible Professionals may elect to do.

The measure requirements for Stage 1 and Stage 2 are different. Individual Test Cases are provided to support testing of each stage within the test data set. The Ambulatory and Inpatient test data are the same for this measure.

The test data for Stage 2 measure requirements are organized by vitals that are within scope for eligible providers (Ambulatory only). The category "All Within Scope" accounts for providers who identify height, weight, and blood pressure as being within their scope of practice. The category "Ht/Wt Within Scope" accounts for providers who identify height and weight as being with their scope of practice, but who identify blood pressure as being out of scope. The category "BP Within Scope" accounts for providers who identify blood pressure as being within scope, but who identify height and weight as being out of scope.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Vital Signs – MU1/MU2 –1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage. The use of " – " in the test data indicates instances where numerator and/or denominator population is not relevant due to exclusion by age or scope.

For 170.314g1, the test data indicate where a report captures the test data patient scenario and its associated time and date, without its denominator limitations applied. In subsequent sections of the test

data, the term "previously recorded" is used to indicate that recording vital signs has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Vital Signs – MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in 170.314g1/g2 – Vital Signs – MU1/MU2 – 1
- 170.314g1/g2 – Vital Signs – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Vital Signs – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Vital Signs – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The Stage 1 denominator is confined to all unique patients 2 years and older who have been seen by the EP or admitted to the Inpatient or emergency department of the eligible hospital/CAH during the reporting period; the act of recording height/length, weight, and blood pressure as structured data will populate the numerator regardless of whether the information was recorded before, during, or after the reporting period
- The Stage 2 denominator is confined to all unique patients who have been seen by the EP or admitted to the Inpatient or emergency department of the eligible hospital/CAH during the reporting period; the act of recording either
    - Height/length, weight, and blood pressure as structured data if all are within scope,
    - Height/length and weight as structured data if blood pressure is out of scope,
    - Blood pressure as structured data if height/length and weight are out of scope, or
    - Height/length, and weight as structured data for all unique patients 3 years or older

  will populate the numerator regardless of whether the information was recorded before, during, or after the reporting period
- The following exclusions are represented in the test data:

  Stage 1
    - Age: patients who are less than 2 years old are excluded from the denominator

  Stage 2
    - Age: patients who are 3 years old or younger are excluded from having blood pressure recorded
    - Scope: patients for whom blood pressure recording is out of scope are excluded from having blood pressure recorded, but not height and weight
    - Scope: patients for whom height and weight recording are out of scope are excluded from having height and weight recorded, but not blood pressure
- Although patient date of birth is provided in the test data set, eventually a select number of dates will inaccurately reflect the requirement specified in the "age" column. For example, a date of

birth that currently identifies a patient as being less than two years of age will no longer fulfill the same requirement after two years have passed

DTR170.314.g2 – 11: Smoking Status

Measure Description

Stage 1 Measure:

- EP: More than 50 percent of all unique patients 13 years old or older seen by the EP have smoking status recorded as structured data
- EH/CAH: More than 50 percent of all unique patients 13 years old or older admitted to the eligible hospital's or CAH's Inpatient or emergency departments (POS 21 or 23) during the EHR reporting period have smoking status recorded as structured data

Stage 2 Measure:

- EP: More than 80 percent of all unique patients 13 years old or older seen by the EP have smoking status recorded as structured data.
- EH/CAH: More than 80 percent of all unique patients 13 years old or older admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period have smoking status recorded as structured data.

Measure–specific Informative Test Description:

This test procedure evaluates the EHR Technology's capability to document if a smoking status has been recorded to populate the numerator once. This test procedure addresses the exclusion for patients younger than 13 years of age as an age exclusion in the denominator and removes patients younger than 13 years of age from the calculation.

The test data set for the Stage 1 and Stage 2 measures is ONC-supplied.

Two smoking status categories are added to the list of acceptable smoking status entries in Stage 2: 1) Heavy tobacco smoker and 2) Light tobacco smoker. These categories are acceptable to populate the numerator for the Stage 1 measure in 2014 Edition certified technology. As the certification criterion test procedure for §170.314(a)(11) evaluates an EHR's capability to map additional smoking status categories to the standard, this test procedure will not evaluate this functionality with regard to populating the numerator.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "There is no requirement that the smoking status be entered into the record by a specific person or category of persons, there is no requirement that smoking status be entered into the CEHRT already in the terminology of the standard and there is no requirement on how frequently this information be updated."
- "A patient indicating how many packs he smokes a day on a new patient questionnaire which is then entered by an administrative person and mapped in the CEHRT to one of the responses in the standard is valid for this measure. A physician could also ask patient detailed questions to determine if the patient is a current smoker, input the information into the CEHRT, and select one of the responses of the standard. ONC has provided a mapping of SNOMED CTR ID to the descriptions at 45 CFR 170.314(a)(11)."

Stage 1 and 2 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator with smoking status recorded as structured data
- Denominator: For a given reporting period, unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator with smoking status recorded as structured data
- Denominator: For a given reporting period, number of unique patients admitted to the eligible hospital or CAH Inpatient or emergency department (POS 21 or 23) with smoking status recorded as structured data

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator (SNOMED code required for Stage 2):
    - Current every day smoker (code: 449868002)
    - Current some day smoker (code: 428041000124106)
    - Former smoker (code: 8517006)
    - Never smoker (code: 266919005)
    - Smoker, current status unknown (code: 77176002)
    - Unknown if ever smoked (code: 266927001)
    - Heavy tobacco smoker (code: 428071000124103)
    - Light tobacco smoker (code: 428061000124105)
- Denominator:
    - Reporting period start and end date
    - Unique patient 13 years of age and older seen by the EP
- Denominator exclusion:
    - Unique patient younger than 13 years of age seen by the EP

Inpatient:

- Numerator (SNOMED code required for Stage 2):
  - Current every day smoker (code: 449868002)
  - Current some day smoker (code: 428041000124106)
  - Former smoker (code: 8517006)
  - Never smoker (code: 266919005)
  - Smoker, current status unknown (code: 77176002)
  - Unknown if ever smoked (code: 266927001)
  - Heavy tobacco smoker (code: 428071000124103)
  - Light tobacco smoker (code: 428061000124105)
- Denominator:
  - Reporting period start and end date
  - Unique patient 13 years of age and older admitted to POS 21 or 23
- Denominator exclusion:
  - Unique patient younger than 13 years of age admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 11.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Smoking Status - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 11.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

VE170.314.g2 – 11.03: Vendor shall identify the EHR function(s) that are available to 1) record if height/length and weight are out of scope of practice, 2) record if blood pressure is out of scope of practice for a provider, 3) electronically record the numerator and denominator for these measures, and 4) create a report that includes the numerator, denominator, and resulting percentage associated with a provider for whom height/length and weight are out of scope of practice and a provider for whom blood pressure is out of scope of practice (Ambulatory setting only)

Required Test Procedure

TE170.314.g2 – 11.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Smoking Status - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 11.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 11.01 and the resulting percentage

TE170.314.g2 – 11.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Smoking Status – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 11.01

TE170.314.g2 – 11.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Smoking Status – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 11.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Smoking Status – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 11.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Smoking Status – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 11.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 11.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 11.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 11.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 11.03: Using the information provided in TD170.314g1/g2 - Smoking Status, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 11.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Smoking Status

Inspection Test Guide for g1

IN170.314.g1 – 11.01: Using the information provided in TD170.314.g1/g2 – Smoking Status, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 11.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Smoking Status and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 11.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Smoking Status

Test Data Narrative

The test data for this measure is ONC-supplied. The test data for Smoking Status represent a combination of new and existing patients for which Smoking Status will be recorded.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter or action when smoking statuses will be entered. The Stage 1 and Stage 2 structured data elements for the Smoking Status measure have expanded to include Heavy Tobacco Smoker and Light Tobacco Smoker. The objective/measure and associated test data is applicable in both the Inpatient and Ambulatory setting.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314g1/g2 – Smoking Status – MU1/MU2 – 1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that a smoking status record has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Smoking Status – MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in 170.314g1/g2 – Smoking Status – MU1/MU2 – 1
- 170.314g1/g2 – Smoking Status – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Smoking Status – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Smoking Status – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a “test measure report” that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of unique patients age 13 or older seen by the EP or admitted to an EH/CAH (POS 21 and POS 23) during the EHR reporting period; the number of patients in the denominator with smoking status recorded as structured data will populate the numerator if it is recorded by the EP or EH/CAH (POS 21 and POS 23) before, during or after the reporting period
- The following exclusions are represented in the test data:
    - Any EP, eligible hospital, or CAH that neither sees nor admits any patients younger than 13 years of age

DTR170.314.g2 – 12: Lab Results Incorporated

Measure Description

Stage 1 Measure:

- EP: More than 40 percent of all clinical lab tests results ordered by the EP during the EHR reporting period whose results are either in a positive/negative or numerical format are incorporated in Certified EHR Technology as structured data
- EH/CAH: More than 40 percent of all clinical lab tests results ordered by authorized providers of an EH/CAH for patients admitted to its Inpatient or emergency department (POS 21 or 23) during the EHR reporting period whose results are either in a positive/negative or numerical format are incorporated in Certified EHR Technology as structured data

Stage 2 Measure:

- EP: More than 55 percent of all clinical lab tests results ordered by the EP during the EHR reporting period whose results are either in a positive/negative affirmation or numerical format are incorporated in Certified EHR Technology as structured data
- EH/CAH: More than 55 percent of all clinical lab tests results ordered by authorized providers of an EH/CAH for patients admitted to its Inpatient or emergency department (POS 21 or 23) during the EHR reporting period whose results are either in a positive/negative affirmation or numerical format are incorporated in Certified EHR Technology as structured data

Measure–specific Informative Test Description:

Per the CMS final rule, if a Vendor presents EHR technology for certification with the capability to accommodate an EP/EH/CAH policy to report individual lab test results recorded as structured data in the numerator, and in the denominator, report all individual lab-tests ordered whether or not they are ordered individually or as part of a panel or group lab order, then Tester should test each of the following three capabilities:

- Single lab order with individual (numeric or positive/negative) result that populates the measure as a single entry in the denominator and counts the result as a single entry in the numerator,
- Group/panel lab order with multiple results (e.g. CBC, BMP, Lipid Panel) that populates the measure in a manner where each (numeric or positive/negative) result individually populates the denominator and individually populates the numerator when resulted and incorporated as structured data, and
- Group/panel lab order with multiple results (e.g. CBC, BMP, Lipid Panel) that populates the measure with a single entry in the denominator and represents the incorporation of all related results as a single entry in the numerator

Per the CMS final rule, the lab test results in the numerator do not have to have a link to the specific lab test orders in the denominator.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and Test Cases. The Vendor supplies the lab order/result values as parameters within the Tester-selected Test Cases.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "…In considering the broader policy goal underlying this measure (to incorporate lab rests into CEHRT in a standard format) the measure needs to be broad enough to allow providers to incorporate laboratory orders and results from multiple service providers. By incorporating all lab orders (whether panel or individual) in the denominator, and all lab test results in the numerator, providers will be able to capture structured lab data from a broad range of provider laboratory information systems into the CEHRT. We understand that the most likely scenario is that the denominator of total lab orders (if panel orders are counted as one) will be less than the numerator of laboratory results because results are provided for each individual test rather than by panel."
- "Providers will need to continue to report individual lab test results recorded as structured data in the numerator, and in the denominator report all individual lab-tests ordered whether or not they are ordered individually or as part of a panel or group lab order."
- "Based on both CMS and companion ONC comments received, we clarify that the measure incorporates all numeric/quantitative tests that report whole or decimal numbers. The structured data for the numeric/quantitative test results may include positive or negative affirmations and/or numerical format that would include a reference range of numeric results and/or ratios."

Stage 1 and 2 Measure English Statements:

Ambulatory:

- Numerator: Number of lab test results expressed in a positive or negative affirmation or as a numeric result incorporated in CEHRT as structured data
- Denominator: For a given reporting period, number of lab tests ordered by the EP whose results are expressed in a positive or negative affirmation or as a number

Inpatient:

- Numerator: Number of lab test results expressed in a positive or negative affirmation or as a numeric result incorporated in CEHRT as structured data
- Denominator: For a given reporting period, number of lab tests ordered by authorized providers of the eligible hospital or CAH Inpatient or emergency department (POS 21 or 23) whose results are expressed in a positive or negative affirmation or as a number

Stage 1 and 2 Measure Elements:

Ambulatory and Inpatient:

- Numerator:
  - Lab result expressed in a positive or negative affirmation incorporated as structured data
  - Lab result expressed as a numeric result incorporated as structured data
- Denominator:
  - Reporting period start and end date
  - Lab test(s) ordered whose result(s) are expressed in a positive or negative affirmation
  - Lab test(s) ordered whose result(s) are expressed as a number

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 12.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Lab Results Incorporated - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 12.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 12.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Lab Results Incorporated - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 12.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 12.01 and the resulting percentage

TE170.314.g2 – 12.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Lab Results Incorporated – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 12.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Lab Results Incorporated – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 12.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Lab Results Incorporated – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 12.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 12.07: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 12.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 12.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 12.03: Using the information provided in TD170.314g1/g2 - Lab Results Incorporated, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 12.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Lab Results Incorporated

Inspection Test Guide for g1

IN170.314.g1 – 12.01: Using the information provided in TD170.314.g1/g2 - Lab Results Incorporated, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 12.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Lab Results Incorporated and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 12.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator value reflects the expected results for the selected Test Cases as indicated in the “Numerator Increment” column of TD170.314.g1/g2 – Lab Results Incorporated

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the laboratory test orders.

The test data for Stage 1 and Stage 2 are the same for this measure. This test data are applicable for use in both Ambulatory and Inpatient settings.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Lab Results Incorporated – MU1/MU2 –1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.
The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Lab Results Incorporated EP – MU1/MU2 – 2: The use of "-" in the Stage 2 test data of this section indicates there is no instance where the numerator can be populated without populating the denominator.
- 170.314g1/g2 – Lab Results Incorporated EP – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Cases
- 170.314g1/g2 – Lab Results Incorporated EP – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Cases
- 170.314g1/g2 – Lab Results Incorporated EP – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Cases

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of lab tests ordered by the EP or in the Inpatient setting (POS 21) or emergency department (POS 23) during the EHR reporting period whose results are expressed in numeric, positive or negative affirmation; the number of lab results expressed in numeric, positive or negative affirmation and incorporated as structured data will populate the numerator if it is recorded by the EP or EH/CAH (POS 21 or POS 23) during the reporting period
- No exclusions are represented in the test data set

DTR170.314.g2 – 13: Patient Reminders

Measure Description

Stage 1 Measure:

- EP: More than 20 percent of all patients 65 years or older or 5 years old or younger were sent an appropriate reminder during the EHR reporting period
- EH/CAH: None

Stage 2 Measure:

- EP: More than 10 percent of all unique patients who have had two or more office visits with the EP within the 24 months before the beginning of the EHR reporting period were sent a reminder, per patient preference when available
- EH/CAH: None

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to document if a patient reminder has been sent per patient preference to populate the numerator once.

The Vendor will identify the method(s) by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of Test Cases for each method.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the patient reminders, and for the Stage 2 measure, the patient preference, within the parameters for the Tester-selected Test Cases. Where applicable, the Vendor may supply the method by which patient reminders are sent if those supplied by ONC are not aligned with the capabilities of the EHR technology.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "We believe that reminders should be limited to new actions that need to be taken not of actions that are already taken. For example, a reminder to schedule your next mammogram is a reminder to take action, while a reminder that your next mammogram is scheduled for next week is a reminder of action already taken. If we were to allow for reminders of existing scheduled appointments then every provider could meet this objective and measure without any patient ever learning new information. So we clarify that reminders for preventive/follow-up care should be for care that the patient is not already scheduled to receive. Reminders are not necessarily just to

follow up with the reminding EP. Reminders for referrals or to engage in certain activities are also included in this objective and measure."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who were sent a reminder
- Denominator: Number of patients 65 years old or older or 5 years old or younger

Inpatient: None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who were sent a reminder per patient preference when available
- Denominator: Number of unique patients who have had two or more office visits with the EP in the 24 months prior to the beginning of the EHR reporting period

Inpatient: None

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
    - Reminder sent to a patient during the EHR reporting period
    - Reporting period start and end date
- Denominator:
    - Patient 65 years old or older
    - Patient 5 years old or younger
- Denominator exclusion:
    - Patients greater than 5 years of age and less than 65 years of age

Inpatient: None

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
    - Reminder sent to a patient
    - Patient preference
    - No patient preference documented
- Denominator:

- Reporting period start and end date
- Unique patient with two or more office visits with the EP in the 24 months prior to the beginning of the EHR reporting period

Inpatient: None

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 13.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Patient Reminders - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 13.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 13.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Patient Reminders - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 13.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 13.01 and the resulting percentage

TE170.314.g2 – 13.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Reminders – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 13.01

TE170.314.g2 – 13.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Reminders – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 13.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Reminders – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 13.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Reminders – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 13.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 13.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

TE170.314.g2 – 13.09: Using Vendor identified EHR functions, the Tester shall verify that patient reminders not sent using clinically relevant information (e.g. problems, medications, allergies) such as appointment reminders do not populate the numerator for this measure

Inspection Test Guide for g2

IN170.314.g2 – 13.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 13.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 13.03: Using the information provided in TD170.314g1/g2 - Patient Reminders, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 13.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Patient Reminders

IN170.314.g2 – 13.05: The Tester shall inspect the accuracy of the numerator by verifying that only relevant reminders populate the numerator (e.g. appointment reminders do not populate the numerator for this measure)

Inspection Test Guide for g1

IN170.314.g1 – 13.01: Using the information provided in TD170.314.g1/g2 - Patient Reminders, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 13.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Patient Reminders and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 13.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the “Numerator Increment” column of TD170.314.g1/g2 – Patient Reminders

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the content of the patient reminders, and where applicable, the patient preference and method by which patient reminders are sent. The test data for Patient Reminders represent a combination of new and existing patients for whom a patient reminder is sent, per patient preference.

New patients may appear as existing patients in subsequent test data patient scenarios to reflect an additional encounter or action when a patient reminder will be sent.

The measure requirements for Stage 1 and Stage 2 are different. Individual Test Cases or test data parameters are provided to support testing of each measure stage. This measure and associated test data are only applicable for use in the Ambulatory setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Patient Reminders – MU1/MU2—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the test data patient scenario and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that sending a patient reminder has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Patient Reminders – MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in TD170.314g1/g2 – Patient Reminders – MU1/MU2 – 1
- 170.314g1/g2 – Patient Reminders – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
    - The use of " –" in the Stage 1 test data of this section indicates where the Test Case is not relevant to Stage 1
- 170.314g1/g2 – Patient Reminders – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Patient Reminders – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The Stage 1 denominator is confined to all unique patients greater than 65 years old and younger than 5 years old with records maintained in the Certified EHR Technology; the act of sending a patient reminder will populate the numerator if it is sent by the EP during the reporting period
- The Stage 2 denominator is confined to all unique patients who have had 2 or more office visits with the eligible provider in the 24 months prior to the beginning of the reporting period; the act of sending a patient reminder per patient preference will populate the numerator regardless of whether the reminder was sent by the EP before, during, or after the reporting period
- The following exclusions are represented in the test data:

  Stage 1
  - Age: patients 65 years old and older and 5 years old and younger who do not have records maintained using Certified EHR Technology are excluded from the denominator

  Stage 2
  - Office visits: patients with no office visits in the 24 months prior to the start of the reporting period are excluded from the denominator
- Although three methods of sending patient reminders (phone, email, text), are indicated in the test data set, these are provided as examples and are not meant to limit the methods by which patient reminders may be sent

DTR170.314.g2 – 14: View, Download, Transmit (VDT)

Measure Description

Stage 1 and Stage 2 Measures:

- EP: (a) More than 50 percent of all unique patients seen by the EP during the EHR reporting period are provided timely (available to the patient within 4 business days after the information is available to the EP) online access to their health information subject to the EP's discretion to withhold certain information; and (b) More than 5 percent of all unique patients seen by the EP during the EHR reporting period (or their authorized representatives) view, download or transmit to a third party their health information
- EH/CAH: (a) More than 50 percent of all patients who are discharged from the Inpatient or emergency department (POS 21 or 23) of an eligible hospital or CAH have their information available online within 36 hours of discharge; and (b) More than 5 percent of all patients who are discharged from the Inpatient or emergency department (POS 21 or 23) of an eligible hospital or CAH (or their authorized representative) view, download or transmit to a third party their information during the EHR reporting period

Measure–specific Informative Test Description:

Per the CMS final rule, Measure 1 of View, Download, Transmit will replace the Stage 1 objectives to provide electronic copies of health information for EPs and discharge instructions for EHs/CAHs, and replace the EP objective to provide timely electronic access to health information using 2011 Edition Certified Technology. For Measure 2 of View, Download, Transmit, this test procedure evaluates patient information available in the EHR technology as available to the EP/EH. This test procedure will evaluate an EHR technology's ability to support providers reporting Stage 1 and Stage 2 measures to provide timely online access to health information, and providers reporting the Stage 2 measure to allow patients and authorized representatives to view, download, and transmit their health information. The numerator for Measure 2 may be populated when a patient (or their authorized representative) views any of the information (i.e., not all) contained in the Ambulatory Summary for the Ambulatory setting, or for the Inpatient setting, the Inpatient Summary or Summary of Care document.

The Vendor will identify the method(s) by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of Test Cases for each method.

The test data set for the Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the patient visit, clinical information, and Ambulatory and Inpatient summary (or Inpatient Summary of Care) for the Tester-selected test data set.

As the certification criterion test procedure for §170.314(e)(1) evaluates an EHR's capability to include all information required by ONC and CMS final rules in the Ambulatory and Inpatient setting, this test procedure will not evaluate this functionality with regard to populating the numerator.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "In order to meet this [EP] objective, the following information must be made available to patients electronically within 4 business days of the information being made available to the EP: Patient name, Provider's name and office contact information, [can be excluded if no information for these outstanding elements:] Current and past problem list, Procedures, Laboratory test results, Current medication list and medication history, Current medication allergy list and medication allergy history, Vital signs (height, weight, blood pressure, BMI, growth charts), Smoking status, Demographic information (preferred language, sex, race, ethnicity, date of birth), Care plan field(s), including goals and instructions, and Any known care team members including the primary care provider (PCP) of record."
- "The following information must be available to satisfy the [EH] objective and measure: Patient name, Admit and discharge date and location, Reason for hospitalization, Care team including the attending of record as well as other providers of care, Procedures performed during admission, Current and past problem list, Current medication list and medication history, Current medication allergy list and medication allergy history, Vital signs at discharge, Laboratory test results (available at time of discharge), Summary of care record for transitions of care or referrals to another provider, Care plan field(s), including goals and instructions, Discharge instructions for patient, Demographics maintained by hospital (sex, race, ethnicity, date of birth, preferred language), Smoking status."
- "Both of the measures for this objective must be met using CEHRT. Therefore, for the purposes of meeting this objective, the capabilities provided by a patient portal, PHR, or any other means of online access and that would permit a patient or authorized representative to view, download, or transmit their personal health information would have to be certified in accordance with the certification requirements adopted by ONC."
- "…the capabilities provided by a patient portal, PHR, or any other means of online access and that would permit a patient or authorized representative to view, download, or transmit their personal health information would have to be certified in accordance with the certification requirements adopted by ONC."
- "…an EP may withhold or remove information from online access if they believe substantial harm may arise from its disclosure online."
- "We define access as having been given when the patient possesses all of the necessary information needed to view, download, or transmit their information. This could include providing patients with instructions on how to access their health information, the website address they must visit for online access, a unique and registered username or password, instructions on how to create a login, or any other instructions, tools, or materials that patients need in order to view, download, or transmit their information."

- "EPs could provide online access to guardians for patients under the age of 18, in accordance with state and local laws, in order to meet the measure of this objective. We recognize that state and local laws may restrict the information that can be made available to guardians, and in these cases such information can be withheld and the patient could still be counted in the numerator of the measure."
- "We address the potential barrier to individuals with disabilities through ONC's rules requiring that EHRs meet web content accessibility standards."
- "We define view as the patient (or authorized representative) accessing their health information online."
- "In circumstances where there is no information available to populate one or more of the fields previously listed, either because the EP can be excluded from recording such information (for example, vital signs) or because there is no information to record (for example. no medication allergies or laboratory tests), the EP may have an indication that the information is not available and still meet the objective and its associated measure."

Stage 1 and 2 Measure English Statements:

Ambulatory Measure 1:

- Numerator: Number of patients in the denominator for whom all information available to the EP is available online to the patient within 4 business days
- Denominator: For given reporting period, number of unique patients seen by the EP

Ambulatory Measure 2:

- Numerator: The number of patients (or an authorized representative for the patient) in the denominator who have viewed, downloaded, or transmitted their information to a third party
- Denominator: For given reporting period, number of unique patients seen by the EP

Inpatient Measure 1:

- Numerator: The number of patients in the denominator for whom all information available to the EH/CAH is available online to the patient within 36 hours of discharge
- Denominator: For given reporting period, number of unique patients discharged from an eligible hospital's or CAH's Inpatient or emergency department (POS 21or 23)

Inpatient Measure 2:

- Numerator: The number of patients (or an authorized representative for the patient) in the denominator who have viewed, downloaded, or transmitted their information to a third party
- Denominator: For given reporting period, number of unique patients discharged from an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)

Stage 1 and 2 Measure Elements:

Ambulatory Measure 1:

- Numerator:
  - Information available to the EP available online to the patient within 4 business days
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP
  - Date information available to EP

Ambulatory Measure 2:

- Numerator:
  - Viewed health information
  - Downloaded health information
  - Transmitted health information
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP
  - Date information available to EP

Inpatient Measure 1:

- Numerator:
  - Information available to the EH/CAH available online to the patient within 36 hours of discharge
- Denominator:
  - Reporting period start and end date
  - Unique patient discharged from an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)
  - Date information available to EH/CAH

Inpatient Measure 2:

- Numerator:
  - Viewed health information
  - Downloaded health information
  - Transmitted health information
- Denominator:
  - Reporting period start and end date
  - Unique patient discharged from an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)
  - Date information available to EH/CAH

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 14.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - VDT - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 14.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, 3) create a report that includes the numerator, denominator, and resulting percentage, and 4) make information available online to the patient or patient-authorized representative

Required Test Procedure

TE170.314.g2 – 14.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - VDT - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 14.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 14.01 and the resulting percentage

TE170.314.g2 – 14.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - VDT – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 14.01

TE170.314.g2 – 14.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - VDT – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 14.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - VDT – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 14.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - VDT – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 14.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 14.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

TE170.314.g2 – 14.09: The Vendor will describe and demonstrate the method by which the health information is made available online to the patient within 4 business days; specifically: 1) method by which all data is automatically sent for online access,

and 2) method by which all data is available after viewed and authorized by the provider. Where the capability exists, the Vendor will demonstrate the method by which information is indicated for withholding before the information is made available online to the patient within 4 business days. Using the Inspection Test Guide, the Tester shall verify these methods make all CMS required information available online within 4 business days

Inspection Test Guide for g2

IN170.314.g2 – 14.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 14.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 14.03: Using the information provided in TD170.314g1/g2 - VDT, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 14.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314g1/g2 - VDT

IN170.314.g2 – 14.05: The Tester shall verify:

- The date that all CMS required information was available in the EHR
- The date the information was available for patient online viewing occurred within 4 business days of the information being available in the EHR
- All CMS required elements (or indication of none) were made available online to the patient within 4 business days OR that all elements required (or an indication of none) were made available to the patient within 4 business days from when the information was available in the EHR

Inspection Test Guide for g1

IN170.314.g1 – 14.01: Using the information provided in TD170.314.g1/g2 - VDT, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 14.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – VDT and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 14.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the

numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – VDT

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the patient information. The test data for VDT contains test data scenarios for Measure 2 only and represents a combination of new and existing patients who have viewed their patient health information.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter or action in which patients will view their patient health information.

The test data set only applies to the Part 2 measure, as the VDT objective is new for Stage 2 of meaningful use. The objective/measure and associated test data are applicable to both the Ambulatory and Inpatient settings.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – VDT – MU1/MU2—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that a prior view, download and transmittal of patient information has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – VDT – MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a test data scenario entered by the Vendor in TD170.314g1/g2 – VDT – MU1/MU2 – 1
- 170.314g1/g2 – VDT – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – VDT – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – VDT – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of unique patients seen by the EP during the EHR reporting period; the number of unique patients (or authorized representatives) in the denominator who have viewed online, downloaded, or transmitted to a third party the patient's

health information will populate the numerator if it is recorded by the EP or EH/CAH (POS 21 and POS 23) before, during and after the reporting period

- No exclusions are represented in the test data

DTR170.314.g2 – 15: Clinical Summary

Measure Description

Stage 1 Measure:

- EP: Clinical summaries provided to patients or 3 business days for more than 50 percent of office visits during the EHR reporting period
- EH/CAH: None

Stage 2 Measure:

- EP: Clinical summaries provided to patients or patient-authorized representatives within 1 business day for more than 50 percent of office visits during the EHR reporting period
- EH/CAH: None

Measure–specific Informative Test Description:

Per the CMS final rule, this test procedure evaluates the EHR technology's ability to document clinical summaries for an office visit or that the clinical summary was declined to populate the numerator. To calculate the numerator after an office visit, the EHR technology should count a clinical summary provided to a unique patient or a unique patient's patient-authorized representative once.

The Vendor will identify the method(s) by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of test cases for each test scenario.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the orders within the parameters for the Tester-selected test data set.

As the certification criterion test procedure for §170.314(e)(2) evaluates an EHR's capability to include all information required by ONC and CMS final rules in the clinical summary, this test procedure will not evaluate this functionality with regard to populating the numerator.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "In the event that a clinical summary is offered to and subsequently declined by the patient, that patient may still be included in the numerator of the measure. We note that the clinical summary must be offered to the patient; a passive indication of the clinical summary's availability (for example, a sign at the reception desk, a note in form, etc.) would not serve as offering the clinical summary and those

patients could not be counted in the numerator of the measure. However, the clinical summary does not necessarily need to be printed before being offered to the patient."

- "In circumstances where there is no information available to populate one or more of the fields previously listed, either because the EP can be excluded from recording such information (for example, vital signs) or because there is no information to record (for example, no medication allergies or laboratory tests), an indication that the information is not available in the clinical summary would meet the measure of this objective… This would also be true if the information is not accessible through CEHRT."
- "As stated previously, an EP can choose whether to offer the summary electronically or on paper by default, but at the patient's request must make the other form available. The EP could select any modality (for example, online, CD, USB) as their electronic option and would not have to accommodate requests for different electronic modalities."
- "We proposed that an office visit is defined as any billable visit that includes: (1) concurrent care or transfer of care visits; (2) consultant visits; or (3) prolonged physician service without direct, face-to-face patient contact (for example, telehealth). A consultant visit occurs when a provider is asked to render an expert opinion/service for a specific condition or problem by a referring provider. The visit does not have to be individually billable in instances where multiple visits occur under one global fee."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of office visits in the denominator for which the patient is provided a clinical summary within three business days
- Denominator: For a given reporting period, number of office visits

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: Number of office visits in the denominator for which the patient is provided a clinical summary within one business day
- Denominator: For a given reporting period, number of office visits

Inpatient: None

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Clinical summary provided
  - Date clinical summary provided
- Denominator:
  - Reporting period start and end date

- Office visit date

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
  - Clinical summary provided
  - Date clinical summary provided
  - Clinical summary declined
- Denominator:
  - Reporting period start and end date
  - Office visit date

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 15.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Clinical Summary - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 15.02: Vendor shall identify the EHR function(s) and methods that are available to provide clinical summaries to patients (e.g. printed copy, online access)

VE170.314.g2 – 15.03: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 15.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Clinical Summary - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 15.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 15.01 and the resulting percentage

TE170.314.g2 – 15.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Clinical Summary – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 15.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Clinical Summary – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 15.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Clinical Summary – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 15.06: Using the Inspection Test Guide, the Tester shall verify that all methods identified by the Vendor to provide Clinical Summaries to patients have been tested

TE170.314.g2 – 15.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 15.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 15.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 15.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 15.03: The Tester shall verify the method(s) demonstrated by the Vendor include all methods indicated in VE170.314.g2 – 15.02

IN170.314.g2 – 15.04: Using the information provided in TD170.314g1/g2 - Clinical Summary, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 15.05: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Clinical Summary

Inspection Test Guide for g1

IN170.314.g1 – 15.01: Using the information provided in TD170.314.g1/g2 - Clinical Summary, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 15.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Clinical Summary and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 15.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Clinical Summary

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases Vendor will supply the clinical summaries. The test data for Clinical Summary represent a combination of new and existing patients for which a clinical summary is provided.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter or action when a clinical summary is provided.

The measure requirements for Stage 1 and Stage 2 are different. Stage 1 requires that a clinical summary be provided within 3 business days and Stage 2 requires that a clinical summary be provided within 1 business day. Individual Test Cases/ test data parameters for each stage are indicated in the test data set. The objective/measure and associated test data are only applicable in the Ambulatory setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Clinical Summary – MU1/MU2—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Clinical Summary– MU1/MU2 – 2: The use of "-" in the test data of this section indicates there is no instance where the numerator can be populated without populating the denominator
- 170.314g1/g2 – Clinical Summary– MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Clinical Summary – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Clinical Summary – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of office visits conducted by the EP during the reporting period; a clinical summary provided to the patient within 1 business day will populate the

numerator if it is provided within1 business day if it is recorded by the EP during the reporting period

- No exclusions are represented in the test data

DTR170.314.g2 – 16: Patient Education

Measure Description

Stage 1 Measure:

- EP: More than 10 percent of all unique patients seen by the EP during the EHR reporting period are provided patient specific education resources
- EH/CAH: More than 10 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period are provided patient specific education resources

Stage 2 Measure:

- EP: Patient-specific education resources identified by Certified EHR Technology (CEHRT) are provided to patients for more than 10 percent of all unique patients with office visits seen by the EP during the EHR reporting period
- EH/CAH: More than 10 percent of all unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) are provided patient-specific education resources identified by Certified EHR Technology

Measure–specific Informative Test Description:

This test procedure evaluates the EHR technology's capability to populate the numerator through documentation of provision of patient-specific education resources identified by the CEHRT. The Vendor will identify the method(s) by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of Test Cases for each method.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the patient education within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "Based on our experience with this objective in Stage 1, we are clarifying that while CEHRT must be used to identify patient-specific education resources, these resources or materials do not have to be stored within or generated by the CEHRT."
- "The EP or hospital should utilize CEHRT in a manner where the technology suggests patient-specific educational resources based on the information stored in the CEHRT…The EP or hospital can then provide these educational resources to patients in a useful format for the patient

(such as, electronic copy, printed copy, electronic link to source materials, through a patient portal or PHR)."

- "This measure requires that an EP or hospital use the capabilities CEHRT includes to identify patient education materials. To clarify, although CEHRT will include the ability to identify education materials using the HL7 Infobutton standard, such capability alone does not need to be used in order to be counted in the numerator (that is, the general capability to identify education materials also counts towards the numerator)."
- "The resources will have to be those identified by CEHRT. If resources are not identified by CEHRT and provided to the patient then it will not count in the numerator."
- "The education resources will need to be provided prior to the calculation and subsequent attestation to meaningful use."

Stage 1 and 2 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who are provided patient-specific education resources identified by Certified EHR Technology
- Denominator: For a given reporting period, number of unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator who are provided patient-specific education resources identified by Certified EHR Technology
- Denominator: For a given reporting period, number of unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator:
  - Provision of patient specific education resource(s) identified by the CEHRT
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Inpatient:

- Numerator:
  - Provision of patient specific education resource(s) identified by the CEHRT
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 16.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 – Patient Education - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 16.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 16.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Patient Education - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 16.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 16.01 and the resulting percentage

TE170.314.g2 – 16.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Education – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 16.01

TE170.314.g2 – 16.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Education – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 16.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Education – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 16.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Patient Education – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 16.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 16.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses

the algorithm described in the Inspection Test Guide to verify the expected results

TE170.314.g2 – 16.09: Using Vendor-supplied test data, the Tester shall cause the EHR to identify patient education using the HL7 Infobutton standard

TE170.314.g2 – 16.10: Using the Inspection Test Guide, the Tester shall verify that the numerator records the action of the EHR identifying patient education via the HL7 Infobutton standard

Inspection Test Guide for g2

IN170.314.g2 – 16.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 16.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 16.03: Using the information provided in TD170.314g1/g2 - Patient Education, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 16.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Patient Education

IN170.314.g2 – 16.05: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the actions in TE170.314.g2 – 16.09

Inspection Test Guide for g1

IN170.314.g1 – 16.01: Using the information provided in TD170.314.g1/g2 - Patient Education, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 16.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Patient Education and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 16.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the “Numerator Increment” column of TD170.314.g1/g2 – Patient Education

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the patient education materials. The test data for Patient Education represent

a combination of new and existing patients for which patient education identified by Certified EHR Technology (CEHRT) will be provided.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter when patient education identified by CEHRT will be provided. The test data for Stage 1 and Stage 2 are the same for this measure. This test data are the same in both Inpatient and Ambulatory settings.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Patient Education – MU1/MU2. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that the provision of patient education identified by CEHRT has already triggered the numerator to be recorded, regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Patient Education – MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in 170.314g1/g2 – Patient Education– MU1/MU2 – 1
- 170.314g1/g2 – Patient Education– MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Patient Education – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Patient Education – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients with office visits seen by the EP or unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the reporting period; a provision of patient education identified by CEHRT will populate the numerator if it is recorded by the EP/EH/CAH before, during or after the reporting period
- No exclusions are represented in this test data set

DTR170.314.g2 – 17: Medication Reconciliation

Measure Description

Stage 1 and 2 Measures:

- EP: The EP performs medication reconciliation for more than 50 percent of transitions of care in which the patient is transitioned into the care of the EP during the EHR reporting period
- EH/CAH: The eligible hospital or CAH performs medication reconciliation for more than 50 percent of transitions of care in which the patient is admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to populate the numerator through documentation of medication reconciliation for transitions of care received by the EP or EH/CAH. Per the CMS final rule, if a Vendor presents EHR technology for certification with the capability to accommodate an EP/EH/CAH policy to count "relevant" encounters in the denominator for this measure, the Tester should include a test data set that demonstrates a relevant encounter can populate the denominator.

For Stage 1 and 2 measures, this test procedure evaluates the capability of the EHR technology to populate the numerator upon confirmation that medication reconciliation has occurred; examples could include a check-box or a single reconciled list of medications. The Vendor will identify the method(s) by which the numerator may be populated, and the Tester shall select test cases that test each method.

The test procedure evaluates the EHR's capability to include all of the following discrete measure elements in the denominator:

- Designation of a referral
- Designation of a transition of care
- Admissions to POS 21 or POS 23 (Inpatient only)
- First encounters with new patients (Ambulatory only)
- Encounter with existing patients where an electronic C-CDA summary of care document or referral summary was received (Ambulatory only)

Stage 1 of meaningful use defines transition of care as the movement of a patient from one setting of care (hospital, Ambulatory primary care practice, Ambulatory specialty care practice, long-term care, home health, rehabilitation facility) to another. Stage 2 of meaningful use specified that a measure's denominator should reflect the following transition of care:

- EH: When the hospital is the recipient of the transition or referral, all admissions to the Inpatient and emergency departments
- EP: When the EP is the recipient of the transition or referral, first encounters with a new patient and encounters with existing patients where a summary of care record (of any type) is provided to the receiving EP

The Stage 1 and Stage 2 test data presented for transitions of care are designed to be inclusive of these definitions in the denominator.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the medication lists and summary of care records within the parameters for the Tester-selected Test Cases, including a sample C-CDA summary of care document for validation in the NIST C-CDA conformance tool.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "In the proposed rule we defined medication reconciliation as the process of identifying the most accurate list of all medications that the patient is taking, including name, dosage, frequency, and route, by comparing the medical record to an external list of medications obtained from a patient, hospital or other provider….After consideration of the comments received, we are finalizing this objective as proposed…"
- "For an EP who is on the receiving end of a transition of care or referral, (currently used for the medication reconciliation objective and measure), the denominator includes first encounters with a new patient and encounters with existing patients where a summary of care record (of any type) is provided to the receiving provider."
- "For transitions of care when the hospital is on the receiving end, (currently used for the medication reconciliation objective and measure), we include all admissions to the Inpatient and emergency departments."
- "… a provider who institutes a policy for medication reconciliation at encounters encompassing more than just the minimum actions defined by the transitions of care denominator can include those encounters in their denominator and if medication reconciliation is conducted at the encounter in the numerator as well."

Stage 1 and 2 Measure English Statements:

Ambulatory:

- Numerator: Number of transitions of care in the denominator with user confirmation that medication reconciliation was performed
- Denominator: For a given reporting period, number of transitions of care during the EHR reporting period for which the EP was the receiving party of the transition

Inpatient:

- Numerator: Number of transitions of care in the denominator with user confirmation that medication reconciliation was performed

- Denominator: For a given reporting period, number of transitions of care during the EHR reporting period for which an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) was the receiving party of the transition

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator:
  - User indication that medication reconciliation occurred
- Denominator:
  - Reporting period start and end date
  - Transition of care for which a patient was received by the EP
    - Designation of a referral
    - Designation of a transition of care
    - First encounters with new patients
    - Designation of an encounter with existing patients with hard copy or scanned copy of summary of care document rec
    - Encounter with existing patients with an electronic C-CDA summary of care document

Inpatient:

- Numerator:
  - User indication that medication reconciliation occurred
- Denominator:
  - Reporting period start and end date
  - Transition of care for which a patient was received by the EH/CAH
    - Admissions to POS 21 or POS 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 17.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Medication Reconciliation - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 17.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 17.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Medication Reconciliation - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 17.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 17.01 and the resulting percentage

TE170.314.g2 – 17.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication Reconciliation – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

- The Vendor shall identify at least one Test Case within TD170.314g1/g2 - Medication Reconciliation – MU1/MU2 - 3: Add New Patient or Modify Existing Patient for which the transition of care shall be triggered by receipt of a C-CDA Referral Summary/Summary of Care document

TE170.314.g2 – 17.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication Reconciliation – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 17.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Medication Reconciliation – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 17.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 17.07: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 17.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 17.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 17.03: Using the information provided in TD170.314g1/g2 - Medication Reconciliation, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 17.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as

indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314g1/g2 - Medication Reconciliation

Inspection Test Guide for g1

IN170.314.g1 – 17.01: Using the information provided in TD170.314.g1/g2 - Medication Reconciliation, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 17.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Medication Reconciliation and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 17.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Medication Reconciliation

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the medication lists and summary of care records, including a sample C-CDA summary of care document that will be validated for conformance by the Tester using the NIST Transport Testing Tool. The test data for Medication Reconciliation represent a combination of new and existing patients for which medications will be reconciled.

New patients may appear as existing patients in subsequent test data patient scenarios to reflect additional medication reconciliation. The Stage 1 and Stage 2 measure test data are the same. The test data for Inpatient and Ambulatory settings are different. Requirements for each setting are indicated in the test data set and below.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Medication Reconciliation – MU1/MU2 –1. The use of "-" in this and subsequent sections indicates irrelevance or inapplicability of a data element (e.g. designation for either the Inpatient or Ambulatory setting only). The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Medication Reconciliation – MU1/MU2 – 2: The use of "-" in this section indicates that there is no instance where the numerator can be populated without populating the denominator
- 170.314g1/g2 – Medication Reconciliation – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Medication Reconciliation – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Medication Reconciliation – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of transitions of care for which the EP or EH/CAH was the receiving party during the EHR reporting period; a transition of care will populate the numerator if medication lists are reconciled by the EP or EH/CAH before, during or after the reporting period. Transitions of care are defined by the CMS Stage 2 final rule as:
    - Ambulatory setting: first encounters with a new patient and encounters with existing patients where a summary of care record (of any type) is provided to the receiving provider
    - Inpatient setting: all admissions to the Inpatient and emergency departments
- No exclusions are represented in this test data set

DTR170.314.g2 – 18: Summary of Care

Measure Description

Stage 1 Measure:

- EP: The EP who transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 50 percent of transitions of care and referrals during the EHR reporting period
- EH/CAH: The eligible hospital or CAH who transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 50 percent of transitions of care and referrals during the EHR reporting period

Stage 2 Measure:

- EP/EH/CAH:
    - (A) The EP, eligible hospital or CAH that transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 50 percent of transitions of care and referrals during the EHR reporting period;
    - (B) The EP, eligible hospital or CAH that transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 10 percent of such transitions and referrals during the EHR reporting period either—
        - (a) Electronically transmitted using Certified EHR Technology to a recipient; or
        - (b) Where the recipient receives the summary of care record via exchange facilitated by an organization that is a NwHIN Exchange participant or in a manner that is consistent with the governance mechanism ONC establishes for the nationwide health information network, and
    - (C) An EP or EH/CAH must satisfy one of the following:
        - (1) Conducts one or more successful electronic exchanges of a summary of care record meeting the measure specified in paragraph (j)(14)(ii)(B) / (1)(11)(ii)(B) of this section with a recipient using technology to receive the summary of care record that was designed by a different EHR developer than the sender's EHR technology certified at 45 CFR 107.314(b)(2); or
        - (2) Conducts one or more successful tests with the CMS designated test EHR during the EHR reporting period

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to populate the numerator through documentation of summaries of care provided and transmitted for transitions of care and referrals. The Vendor will identify the method(s) by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of test cases for each method.

This test procedure includes the testing of populating the numerator of the measure upon transmitting Summary of Care documents to CEHRT by performing validation of successful transmission of a Referral

Summary/Summary of C-CDA using the ONC Applicability Statement for Secure Health Transport (Direct) using the NIST Transport Testing Tool to evaluate conformance. This test procedure does not test the EHR's capability to record or produce a report for the attestation-based part C of the Stage 2 measure.

The Test Procedure evaluates the EHR's capability to include all of the following discrete data elements in the denominator:

- Designation of a referral
- Designation of a transition of care
- Discharges from the inpatient department (POS 21) (Inpatient only)
- Order for follow-up care (Inpatient only)

Stage 1 of meaningful use defines transition of care as the movement of a patient from one setting of care (hospital, Ambulatory primary care practice, Ambulatory specialty care practice, long-term care, home health, rehabilitation facility) to another. Stage 2 of meaningful use specified that a measure's denominator should reflect the following transition of care:

- EH: When the hospital is the initiator of the transition or referral, all discharges from the Inpatient department and after admissions to the emergency department when follow-up care is ordered by authorized providers of the hospital
- EP: When the EP is the initiator of the transition or referral, transitions and referrals ordered by the EP.

The Stage 1 and Stage 2 test data presented for transitions of care are designed to be inclusive of these definitions in the denominator.

As the certification criterion test procedure for §170.314(b)(2) evaluates an EHR's capability to include all information required by ONC and CMS final rules in the summary of care, this test procedure will not evaluate this functionality with regard to populating the numerator.

This test procedure will verify that the following required elements appear in the Vendor-provided summary of care document generated for Tester selected patients in the test data set:

- Current problem(s) or indication of no problems
- Historical problems (if available in CEHRT)
- Current medication(s) or indication of no medications
- Current medication allergy(ies) or indication of no current medication allergies

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the summary of care records within the parameters for the Tester-selected set, including a sample C-CDA summary of care document for validation in the NIST C-CDA conformance tool.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "Some objectives call for the current problem list which includes only those diagnoses of problems currently affecting the patient."
- "In addition, all summary of care documents used to meet this objective must include the following in order to be considered a summary of care document for this objective:
    - Current problem list (Providers may also include historical problems at their discretion)
    - Current medication list, and
    - Current medication allergy list."
- "The problem list, medication list and medication allergy list must also either contain problems, medications and medication allergy or a specific notation that the patient has none. Leaving the field entirely blank with no entry whatsoever would not meet the measure."
- "… in cases where the provider does not have the information available to populate one or more of the other fields listed, either because they can be excluded from recording such information (for example, vital signs) or because there is no information to record (for example, laboratory tests), the provider may leave the field(s) blank. Note this does not allow a provider to disable a listed field from being generated by the CEHRT, but rather allows for when the CEHRT does not contain information on which to generate an entry for the field."
- "For summary of care documents at transitions of care we encourage providers to send a list of items that he or she believes to be pertinent and relevant to the patient's care, rather than list of all problems, whether they are active or resolved, that have ever populated the problem list. While a current problem list should always be included, the provider can use his or her judgment in deciding which items historically present on the problem list, PMHx list (if it exists in CEHRT) or surgical history list are included given clinical circumstances."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: Number of transitions of care and referrals in the denominator where a summary of care record was provided inclusive of:
    - Current problem(s) or indication of no problems
    - Historical problems (at provider's discretion)
    - Current medication(s) or indication of no medications
    - Current medication allergy(ies) or indication of no current medication allergies
- Denominator: Number of transitions of care and referrals during the EHR reporting period for which the EP was the transferring or referring provider

Inpatient:

- Numerator: Number of transitions of care and referrals in the denominator where a summary of care record was provided inclusive of:

- Current problem(s) or indication of no problems
- Historical problems (at provider's discretion)
- Current medication(s) or indication of no medications
- Current medication allergy(ies) or indication of no current medication allergies

- Denominator: Number of transitions of care and referrals during the EHR reporting period for which the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or POS 23) was the transferring or referring provider

Stage 2 Measure English Statements:

Ambulatory and Inpatient:

- Measure A:
  Numerator: The number of transitions of care and referrals in the denominator where a summary of care record was provided with the required elements:
  - Current problem(s) or indication of no problems
  - Historical problems (at provider's discretion)
  - Current medication(s) or indication of no medications
  - Current medication allergy(ies) or indication of no current medication allergies

  Denominator: For a given reporting period, the number of transitions of care and referrals which the EP was the transferring or referring provider
  - Designation of a referral
  - Designation of a transition of care
  - Discharges from the inpatient department (POS 21) (inpatient only)
  - Order for follow-up care (inpatient only)
  - Discharges from the inpatient department (POS 21) (inpatient only)
  - Order for follow-up care (inpatient only)

- Measure B:
  Numerator:
  - The number of transitions of care and referrals in the denominator where a summary of care record (inclusive of problem list, medication list, and medication allergy list) was electronically transmitted using CEHRT to a recipient
  - The number of transitions of care and referrals in the denominator where the recipient receives the summary of care record via exchange facilitated by an organization that is a NwHIN Exchange participant
  - The number of transitions of care and referrals in the denominator where the recipient receives the summary of care record in a manner that is consistent with the governance mechanism ONC establishes for the nationwide health information network.

  Denominator: For a given reporting period, the number of transitions of care and referrals for which the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or POS 23) was the transferring or referring provider

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Summary of care provided
    - Contains problem list
    - Contains medication list
    - Contains medication allergy list
- Denominator:
  - Reporting period start and end date
  - Transitions or referrals from the EP

Inpatient:

- Numerator:
  - Summary of care provided
    - Contains problem list
    - Contains medication list
    - Contains medication allergy list
- Denominator:
  - Reporting period start and end date
  - Transitions or referrals from the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or POS 23)

Stage 2 Measure Elements:

Measure A: Ambulatory:

- Numerator:
  - Summary of care provided
    - Contains problem list
    - Contains medication list
    - Contains medication allergy list
- Denominator:
  - Reporting period start and end date
  - Transitions or referrals from the EP

Measure A: Inpatient:

- Numerator:
  - Summary of care provided
    - Contains problem list
    - Contains medication list
    - Contains medication allergy list

- Denominator:
  - Reporting period start and end date
  - Transitions or referrals from the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or POS 23)

Measure B: Ambulatory

- Numerator:
  - Summary of care provided
    - Contains problem list
    - Contains medication list
    - Contains medication allergy list
  - Summary of care transmitted
- Denominator:
  - Reporting period start and end date
  - Patient transitioned or referred from the EP

Measure B: Inpatient

- Numerator:
  - Summary of care provided
    - Contains problem list
    - Contains medication list
    - Contains medication allergy list
  - Summary of care transmitted
- Denominator:
  - Reporting period start and end date
  - Patient transitioned or referred from the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or POS 23)

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 18.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Summary of Care - MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 18.02: Using Vendor-supplied test data, the Vendor shall populate patient clinical information for test patients in VE170.314.g2 – 18.01 for Referral Summary/Summary of Care document(s)

VE170.314.g2 – 18.03: Using Vendor-supplied test data, the Vendor shall create an additional test patient to be used for this test and populate patient clinical information for Referral Summary/Summary of Care document(s)

VE170.314.g2 – 18.04: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 18.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Summary of Care - MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 18.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 18.01 and the resulting percentage

TE170.314.g2 – 18.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Summary of Care – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the Measure A numerator and denominator, and the Measure B denominator only of new patients

TE170.314.g2 – 18.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Summary of Care – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 18.05: The Tester shall cause the EHR to transmit Consolidated CDA document(s) using ONC Applicability Statement for Secure Health Transport (Direct) standard to the Direct (To) address(es) specified in the Transport Testing Tool for the the Test Cases within TD170.314g1/g2 - Summary of Care – MU1/MU2 - 3: Add New Patient or Modify Existing Patient.

- Ambulatory: Ambulatory Summary available for patients in Test Cases within TD170.314g1/g2 - Summary of Care - MU 1 /MU 2 - 3: Add New Patient or Modify Existing Patient
- Inpatient: Inpatient Summary or Summary of Care document for patients in Test Cases within TD170.314g1/g2 - Summary of Care - MU 1 /MU 2 - 3: Add New Patient or Modify Existing Patient

TE170.314.g2 – 18.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Summary of Care – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 18.07: The Tester selects one or more Test Cases from TD170.314g1/g2 - Summary of Care – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 18.08: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 18.09: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

TE170.314.g2 – 18.10: Using Vendor identified EHR functions, the Tester causes the EHR to create an encounter with a referral/transition of care for the test patient identified in TE170.314g2 – 18.02

TE170.314.g2 – 18.11: Using Vendor identified EHR functions, the Tester causes the EHR to create a summary of care record for the patient that does not include any of the following: problem list, medication list, medication allergy list (if the EHR technology allows this capability)

TE170.314.g2 – 18.12: Using Vendor identified EHR functions, the Tester causes the EHR to transmit a summary of care record to another provider with CEHRT that does not include any of the following: problem list, medication list, medication allergy list (if the EHR technology allows this capability)

TE170.314.g2 – 18.13: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 18.14: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission

Inspection Test Guide for g2

IN170.314.g2 – 18.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 18.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 18.03: Using the information provided in TD170.314g1/g2 - Summary of Care, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 18.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Summary of Care

IN170.314.g2 – 18.05: Using the Transport Testing Tool, the Tester shall verify that the transmitted C-CDA document(s) have been transmitted and received successfully according to the ONC Applicability Statement for Secure Health Transport (Direct) standard, and include problem list, medication list, and medication allergy list information

IN170.314.g2 – 18.06: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate: without increments in the numerator and with increments in the denominator based upon actions in TE170.314.g2 – 18.11 and TE170.314.g2 – 18.12

Inspection Test Guide for g1

IN170.314.g1 – 18.01: Using the information provided in TD170.314.g1/g2 - Summary of Care, the Tester shall verify that a report including the numerator is created correctly and

	without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314.g1 – 18.02:	The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Summary of Care and verify the expected results include an individual data element level reference to date and time
IN170.314.g1 – 18.03:	If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Summary of Care
IN170.314.g2 – 18.05:	Using the Transport Testing Tool, the Tester shall verify that the transmitted C-CDA document(s) have been transmitted and received successfully according to the ONC Applicability Statement for Secure Health Transport (Direct) standard, and include problem list, medication list, and medication allergy list information
IN170.314.g2 – 18.06:	The Tester shall verify that the numerator value does not increment based upon actions in TE170.314.g2 – 18.11 and TE170.314.g2 – 18.12

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the summary of care records. The test data for Summary of Care represent a combination of new and existing patients for which a summary of care record will be provided, or provided and electronically transmitted.

New patients may appear as existing patients in subsequent test data scenarios to reflect an additional encounter or action when a summary of care record will be provided, or provided and electronically transmitted.

The measure requirements for Stage 1 and Stage 2 are different. Requirements for each stage are indicated in the test data set: Measure A is required for both Stages 1 and 2 while Measure B is only required for Stage 2. This test data is the same in both Ambulatory and the Inpatient settings.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Summary of Care – MU1/MU2 – 1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Summary of Care – MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this section indicates scenarios in which the numerator and the denominator is populated for Measure A and only the denominator is populated for Measure B
- 170.314g1/g2 – Summary of Care – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Summary of Care – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Summary of Care – MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a “test measure report” that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of transitions of care and referrals by the EP or EH/CAH during the reporting period; a summary care record will populate the Measure A numerator, and an electronic transmission of a summary of care record will populate the Measure B numerator if provided during the EHR reporting period
- No exclusions are represented in this test data set

DTR170.314.g2 – 19: Secure Electronic Messaging

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- EP: A secure message was sent using the electronic messaging function of Certified EHR Technology by more than 5 percent of unique patients (or their authorized representatives) seen by the EP during the EHR reporting period
- EH/CAH: None

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to document that an electronic message was sent by a unique patient or patient-authorized representative and was received using the electronic messaging function of Certified EHR Technology to populate the numerator once.

The Vendor will identify the method(s) by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of Test Cases for each method.

The test data set for the Stage 2 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the messages within the parameters for the Tester-selected Test Cases.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "While e-mail with the necessary safeguards is probably the most widely used method of electronic messaging, for the purposes of meeting this objective, secure electronic messaging could also occur through functionalities of patient portals, PHRs, or other stand-alone secure messaging applications."
- "We define a secure message as any electronic communication between a provider and patient that ensures only those parties can access the communication. This electronic message could be email or the electronic messaging function of a PHR, an online patient portal, or any other electronic means. However, we note that the secure message also must use the electronic messaging function of CEHRT in order to qualify for the measure of this objective."
- "As we stated in the proposed rule, there is an expectation that the EP would respond to electronic messages sent by the patient, although we do not specify the method of response or require the EP to document his or her response for this measure. We decline to specify the

method of provider response because we believe it is best left to the provider's clinical judgment to decide the course of action which should be taken in response to the patient's electronic message. An EP or staff member could decide that a follow-up telephone call or office visit is more appropriate to address the concerns raised in the electronic message. Therefore, we decline to alter the measure to include provider response."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: Number of patients or patient-authorized representatives in the denominator who send a secure electronic message to the EP that is received using the electronic messaging function of CEHRT
- Denominator: Unique patients seen by the EP during the EHR reporting period

Inpatient: None

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
  - Secure electronic message received by EP using secure electronic messaging function of CEHRT
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Inpatient: None

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 19.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Secure

Messaging - MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 19.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 19.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Secure Messaging - MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 19.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 19.01 and the resulting percentage

TE170.314.g2 – 19.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Secure Messaging – MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 19.01

TE170.314.g2 – 19.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Secure Messaging – MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 19.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Secure Messaging – MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 19.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Secure Messaging – MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 19.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 19.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 19.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 19.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 19.03: Using the information provided in TD170.314g1/g2 - Secure Messaging, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 19.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314g1/g2 - Secure Messaging

Inspection Test Guide for g1

IN170.314.g1 – 19.01: Using the information provided in TD170.314.g1/g2 - Secure Messaging, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 19.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Secure Messaging and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 19.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Secure Messaging

Test Data Narrative

Description: The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the electronic message(s) and any associated content to be securely sent and received through Certified EHR Technology. The test data for Secure Electronic Messaging represent a combination of new and existing patients for which receipt of secure electronic message(s) will be recorded.

New patients may appear as existing patients in subsequent test data to reflect an additional encounter or action when receiving a secure electronic message will be sent and received.

The test data only applies to the Stage 2 measure, as the Secure Electronic Messaging objective is new for Stage 2 of meaningful use. The objective/measure and associated test data are only applicable in the Ambulatory setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Secure Messaging – MU2—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicates where a report captures the test data scenario and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that receipt of a secure electronic message has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Secure Messaging– MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case selected by the Vendor in 170.314g2 – Secure Messaging – MU2 – 1
- 170.314g1/g2 – Secure Messaging – MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Secure Messaging – MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Secure Messaging – MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients with office visits (EP) during the reporting period; a secure electronic message that is received through the secure messaging function of the Certified EHR Technology will populate the numerator regardless of whether a message is sent or received before, during or after the reporting period
- No exclusions are represented in the test data

DTR170.314.g2 – 20: Imaging

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- EP: More than 10 percent of all tests whose result is one or more images ordered by the EP during the EHR reporting period are accessible through CEHRT
- EH/CAH: More than 10 percent of all tests whose result is one or more images ordered by an authorized provider of the eligible hospital or CAH for patients admitted to its Inpatient or emergency department (POS 21 or 23) during the EHR reporting period are accessible through CEHRT

Measure–specific Informative Test Description:

This test procedure evaluates the capability of the EHR to populate the numerator when an image result is accessible; including incorporated into the EHR or indicated as available in another technology through a link to the image. The test data set does not evaluate if the accompanying information is included with the image.

The test data set for the Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the image orders and images within the parameters for the Tester-selected test data set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "We did not propose that CEHRT store the images. Storing the images natively in CEHRT is one way to make them accessible through CEHRT, but there are many other ways."
- "We do not impose limitations of the resolution of the image. To the extent this is a concern, it would be a capability of CEHRT not a requirement of meaningful use."
- "The objective as proposed was intended to convey that the image itself is the result and that narratives/explanations and other information would be the additional information. Due to the many comments we received requesting clarification, we are revising the objective for clarity."
- "For Stage 2, we did not propose the image or accompanying information (for example, radiation dose) be required to be structured data. Images and imaging results that are scanned into the CEHRT may be counted in the numerator of this measure."

- "We defined accessible as either incorporation of the image and accompanying information into CEHRT or an indication in CEHRT that the image and accompanying information are available for a given patient in another technology and a link to that image and accompanying information."
- "Incorporation of the image means that the image and accompanying information is stored by the CEHRT. We did not propose that meaningful use would impose any additional retention requirements on the image."
- "A link to the image and accompanying information means that a link to where the image and accompanying information is stored is available in CERHT. This link must conform to the certification requirements associated with this objective in the ONC final rule…"
- "No access means that none of the imaging providers used by the EP provide electronic images and any explanation or other accompanying information that are accessible through their CEHRT at the start of the EHR reporting period."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: The number of tests in the denominator whose results are accessible
- Denominator: For a given reporting period, number of tests whose result is one or more images ordered by an EP

Inpatient:

- Numerator: The number of tests in the denominator whose results are accessible
- Denominator: For a given reporting period, number of tests whose result is one or more images ordered by an authorized provider for patients admitted to the Inpatient or emergency department (POS 21 or 23)

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
  - Image accessible
- Denominator:
  - Reporting period start and end date
  - Ordered test(s) with image result(s)

Inpatient:

- Numerator:
  - Image accessible
- Denominator:
  - Reporting period start and end date
  - Ordered test(s) with image result(s)

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 20.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Imaging - MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 20.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 20.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Imaging - MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 20.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 20.01 and the resulting percentage

TE170.314.g2 – 20.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Imaging – MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 20.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Imaging – MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing

TE170.314.g2 – 20.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Imaging – MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 20.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 20.07: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-

selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 20.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 20.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 20.03: Using the information provided in TD170.314g1/g2 - Imaging, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 20.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314g1/g2 - Imaging

Inspection Test Guide for g1

IN170.314.g1 – 20.01: Using the information provided in TD170.314.g1/g2 - Imaging, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 20.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Imaging and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 20.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Imaging

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the image orders and images. The test data only appears for the Stage 2 measure, as the Imaging objective is new for Stage 2 of meaningful use. The objective/measure and associated test data are to the same in both the Ambulatory and Inpatient settings.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Imaging – MU2. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Imaging – MU2 – 2: The use of "-" in the Stage 2 test data of this section indicates there is no instance where the numerator can be populated without populating the denominator.
- 170.314g1/g2 – Imaging – MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Imaging – MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Imaging – MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of tests whose results are one or more images ordered by the EP or by an authorized provider on behalf of the EH/CAH (POS 21 or 23) during the reporting period; an image result that is accessible through CEHRT will populate the numerator if it is recorded by the EP or EH/CAH (POS 21 and POS 23) during the reporting period
- No exclusions are represented in the test data set

DTR170.314.g2 – 21: Family Health History

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- EP: More than 20 percent of all unique patients seen by the EP during the EHR reporting period have a structured data entry for one or more first-degree relatives
- EH/CAH: More than 20 percent of all unique patients admitted to the eligible hospital or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period have a structured data entry for one or more first-degree relatives

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to document if family health history information has been recorded for a first-degree relative.

Per the CMS final rule, this test procedure will require EHR technology to populate the numerator for this measure if a provider has documented family health history as structured data, including entries of "unknown" and "none."

The test data set for the Stage 2 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the family health history values within the parameters for the Tester-selected Test Cases.

As the certification criterion test procedure for §170.314(a)(13) evaluates an EHR's capability to record family health history as structured data in the SNOMED and HL7 vocabulary standards, this test procedure will not evaluate this functionality with regard to populating the numerator.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "We proposed to adopt the definition of first degree relative used by the National Human Genome Research Institute of the National Institutes of Health. A first degree relative is a family member who shares about 50 percent of their genes with a particular individual in a family. First degree relatives include parents, offspring, and siblings."
- "We did not propose a time limitation on the indication that the family health history has been reviewed. The recent nature of this capability in EHRs will impose a de facto limitation on review to the recent past."

- "Either a structured data entry of "unknown" or any structured data entry identified as part of the patient's family history and conforming to the standards of CEHRT at 45 CFR 170.314(a)(13) must be in the provider's CEHRT for the patient to count in the numerator."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator:
  - Number of patients in the denominator with a structured data entry for one or more first-degree relatives (parents, siblings, and offspring)
- Denominator:
  - Number of unique patients seen by the EP during the EHR reporting period

Inpatient:

- Numerator:
  - Number of patients in the denominator with a structured data entry for one or more first-degree relatives (parents, siblings, and offspring)
- Denominator:
  - Number of unique patients admitted to the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
  - Family health history entry/entries for parent(s)
  - Family health history entry/entries for sibling(s)
  - Family health history entry/entries for child(ren)
  - Family health history for parent unknown
  - Family health history for sibling(s) unknown
  - Family health history for child(ren) unknown
  - None - Patient has no sibling(s)
  - None - Patient has no child(ren)
- Denominator:

- Report period start and end date
- Unique patient seen by the EP

Inpatient:

- Numerator:
  - Family health history entry/entries for parent(s)
  - Family health history entry/entries for sibling(s)
  - Family health history entry/entries for child(ren)
  - Family health history for parent unknown
  - Family health history for sibling(s) unknown
  - Family health history for child(ren) unknown
  - None - Patient has no sibling(s)
  - None - Patient has no child(ren)
- Denominator:
  - Report period start and end date
  - Unique Patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 21.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Family Health History - MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 21.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 21.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Family Health History - MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 21.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 21.01 and the resulting percentage

TE170.314.g2 – 21.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Family Health History – MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 21.01

TE170.314.g2 – 21.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Family Health History – MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients TE170.314.g2 – 21.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Family Health History – MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients TE170.314.g2 – 21.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Family Health History – MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 21.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 21.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 21.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 21.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 21.03: Using the information provided in TD170.314g1/g2 - Family Health History, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 21.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Family Health History

Inspection Test Guide for g1

IN170.314.g1 – 21.01: Using the information provided in TD170.314.g1/g2 - Family Health History, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 21.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – Family Health History and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 21.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Family Health History

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the family health history information to be recorded as structured data for parent, sibling, and child. The test data for family health history represent a combination of new and existing patients for which parent, child, and/or sibling health history will be recorded.

New patients may appear as existing patients in subsequent test data to reflect an additional encounter or action when family health history information will be recorded or modified.

The test data set only applies to the Stage 2 measure, as the Family Health History objective is new for Stage 2 of meaningful use. The measure and associated test data are applicable in both the Ambulatory and Inpatient settings.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Family Health History – MU2 —1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicates where a report captures the test data scenario and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that recording of either parent, sibling, or child health history information has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Family Health History– MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case selected by the Vendor in 170.314g2 – Family Health History – MU2 – 1
- 170.314g1/g2 – Family Health History – MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Family Health History – MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Family Health History – MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester must select the values of "none" and "unknown" at least once during the test when recording family health history as structured data.

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients with office visits during the reporting period (EP) or admissions to the eligible hospital's or CAH's Inpatient or emergency departments during the reporting period; the act of recording either parent, sibling, or child health history as structured data will populate the numerator regardless of whether it is recorded by the EP/EH/CAH before, during or after the reporting period
- No exclusions are represented in the test data
- Recording family health history information for more than one of the required relatives, although encouraged, will not populate the numerator any further than recording the information for only one of the required relatives

DTR170.314.g2 – 22: Electronic Notes

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- EP: Enter at least one electronic progress note created, edited, and signed by an EP for more than 30 percent of unique patients with at least one office visit during the EHR reporting period. The text of the electronic note must be text-searchable and may contain drawings and other content
- EH/CAH: Enter at least one electronic progress note created, edited, and signed by an authorized provider of the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) for more than 30 percent of unique patients admitted to the eligible hospital or CAH's Inpatient or emergency department during the EHR reporting period. The text of the electronic note must be text-searchable and may contain drawings and other content

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to document if an electronic note has been created, edited, or signed to populate the numerator once. The test procedure also tests that a non-authorized provider (e.g., staff, nursing assistant, nurse) that has created, edited or signed a note (e.g. phone note, education/counseling visit) does not populate the numerator. In DTR170.314.g2 – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

The test data set for the Stage 2 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the electronic notes within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "We further define electronic notes as electronic progress notes for the purpose of this measure."
- "For this objective, we have determined that any EP as defined for the Medicare or Medicaid EHR Incentive Programs, or an authorized provider of the eligible hospital's or CAH's Inpatient or emergency departments (POS 21 or 23) may author, edit, and provide an electronic signature for the electronic notes in order for them to be considered for this measure."
- "Non-searchable notes do not qualify, but this does not mean that all of the content has to be character text."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator for whom at least one text-searchable, electronic note has been created by an EP
- Denominator: For a given reporting period, number of unique patients seen by the EP

Inpatient:

- Numerator: Number of patients in the denominator for whom at least one text-searchable, electronic note has been created by an authorized provider of the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)
- Denominator: For a given reporting period, number of unique patients admitted to an eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23)

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
    - Text-searchable, electronic note created
- Denominator:
    - Reporting period start and end date
    - Unique patient seen by the EP

Inpatient:

- Numerator:
    - Text-searchable, electronic note created
- Denominator:
    - Reporting period start and end date
    - Unique patient admitted to POS 21 or 23

Normative Test Procedure

<u>Required Vendor Information</u>

VE170.314.g2 – 22.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Electronic Notes - MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 22.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 22.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Electronic Notes - MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 22.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 22.01 and the resulting percentage

TE170.314.g2 – 22.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Electronic Notes – MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 22.01

TE170.314.g2 – 22.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Electronic Notes – MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 22.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Electronic Notes – MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 22.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Electronic Notes – MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 22.07: Using Vendor-supplied test data, the Tester shall cause the EHR to record an electronic note by an individual that is not authorized provider and should not populate the numerator or denominator.

TE170.314.g2 – 22.08: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 22.09: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 22.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 22.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 22.03: Using the information provided in TD170.314g1/g2 - Electronic Notes, and as indicated in TE170.314.g2 – 22.07, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 22.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314g1/g2 - Electronic Notes

Inspection Test Guide for g1

IN170.314.g1 – 22.01: Using the information provided in TD170.314.g1/g2 - Electronic Notes, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 22.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Electronic Notes and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 22.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Electronic Notes

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the electronic notes. The test data for electronic notes represent a combination of new and existing patients for which electronic notes will be created.

New patients may appear as existing patients in subsequent test data to reflect an additional encounter or action when creating electronic notes will be entered.

The test data set only applies to the Stage 2 measure, as the Electronic Notes objective is new for Stage 2 of meaningful use.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Electronic Notes – MU2—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicates where a report captures the test data scenario and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that creation of an electronic note has already triggered the numerator to be recorded, regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Electronic Notes – MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case entered by the Vendor in TD170.314g1/g2 – Electronic Notes – MU2 – 1
- 170.314g1/g2 – Electronic Notes – MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Electronic Notes – MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Electronic Notes – MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients with at least one office visit during the reporting period (EP) or unique patients admitted to the eligible hospital's or CAH's Inpatient and emergency department during the reporting period (EH); creation of an electronic note will populate the numerator regardless of whether the note is created, edited or signed by the EP/EH/CAH before, during or after the reporting period
- No exclusions are represented in the test data
- Although the measure language describes that an electronic progress note must be "created, edited, and signed by an EP," this test procedure was written with the intention that only the act of creating a note would trigger population of the numerator
- Because an electronic note cannot be edited or signed without first being created and because this measure does not prohibit including electronic notes created outside of the reporting period, the actions of only editing or only signing a note would never allow for entry of a numerator value that was already populated by initial creation of the note

DTR170.314.g2 – 23: Advance Directives

Measure Description

Stage 1 Measure:

- EP: None
- EH/CAH: More than 50 percent of all unique patients 65 years old or older admitted to the eligible hospital's or CAH's Inpatient department (POS 21) during the EHR reporting period have an indication of an advance directive status recorded as structured data.

Stage 2 Measure:

- EP: None
- EH/CAH: More than 50 percent of all unique patients 65 years old or older admitted to the eligible hospital's or CAH's Inpatient department (POS 21) during the EHR reporting period have an indication of an advance directive status recorded as structured data.

Measure–specific Informative Test Description:

The test procedure evaluates the EHR technology's capability to document if an advance directive status has been recorded to populate the numerator once.

The test data set for the Stage 1 and Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the indication of advance directive status within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "In the proposed rule, we explained that the calculation of the denominator for the measure of this objective is limited to unique patients age 65 or older who are admitted to an eligible hospital's or CAH's Inpatient department (POS 21). Patients admitted to an emergency department (POS 23) should not be included in the calculation. As we discussed in our Stage 1 final rule (75 FR 44345), we believe that this information is a level of detail that is not practical to collect on every patient admitted to the eligible hospital's or CAH's emergency department, and therefore, have limited this measure only to the Inpatient department of the hospital."

Stage 1 and 2 Measure English Statements:

Ambulatory: None

Inpatient:

- Numerator: Number of patients in the denominator who have an indication of an advance directive status entered using structured data
- Denominator: Unique patients age 65 or older admitted to an eligible hospital's or CAH's Inpatient department (POS 21) during the EHR reporting period

Stage 1 and 2 Measure Elements:

Ambulatory: None

Inpatient:

- Numerator:
  - Structured data entry indicating an advance directive status
- Denominator:
  - Reporting period start and end date
  - Unique patient age 65 years of age and older admitted to an EH's or CAH's Inpatient department (POS 21)
- Denominator exclusion:
  - Unique patient less than 65 years of age
  - Unique patient 65 years and older admitted to the ED (POS 23)

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 23.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Advance Directives – MU1/MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 23.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 23.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Advance Directives – MU1/MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 23.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 23.01 and the resulting percentage

TE170.314.g2 – 23.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Advance Directives – MU1/MU2 - 2: Modify Test Data Set-Up for New Patient to cause the EHR to modify the numerator of patients entered in TE170.314.g2 – 23.01

TE170.314.g2 – 23.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Advance Directives – MU1/MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 23.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Advance Directives – MU1/MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 23.06: The Tester selects one or more Test Cases from TD170.314g1/g2 - Advance Directives – MU1/MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 23.07: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 23.08: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 23.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 23.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 23.03: Using the information provided in TD170.314g1/g2 - Advance Directives, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 23.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - Advance Directives

Inspection Test Guide for g1

IN170.314.g1 – 23.01: Using the information provided in TD170.314.g1/g2 - Advance Directives, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 23.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Advance Directives and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 23.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Advance Directives

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases and the Vendor will supply the advance directive status to be recorded as structured data for patients older than 65 years of age who have an admission to the Inpatient department (POS 21). The test data for advance directives represent a combination of new and existing patients for which an advance directive status will be indicated.

New patients may appear as existing patients in subsequent test data to reflect an additional encounter or action when advance directive status will be recorded. The test data set for Stage 1 and Stage 2 is the same for this measure. This test data is only applicable for use in the Inpatient setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Advance Directives – MU1/MU2 – 1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the test data scenario and its associated time and date, without its denominator limitations applied. In subsequent sections of the test data, the term "previously recorded" is used to indicate that recording of advance directive status has already triggered the numerator to be recorded regardless of denominator limitations.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Advance Directives– MU1/MU2 – 2: Tester shall select a minimum of 1 Test Case in this section; this will be a Test Case selected by the Vendor in TD170.314g1/g2 – Advance Directives – MU1/MU2 – 1
- 170.314g1/g2 – Advance Directives – MU1/MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Advance Directives – MU1/MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Advance Directives– MU1/MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a “test measure report” that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to unique patients age 65 or older who have been admitted to an eligible hospital’s or CAH’s Inpatient department (POS 21); the act of recording an advance directive status as structured data will populate the numerator regardless of whether it is recorded by the EP/EH/CAH before, during or after the reporting period
- The following exclusions are represented in the test data:
    - Age: patients less than 65 years of age admitted to the eligible hospital or CAH during the reporting period are excluded from the denominator
    - Location: patients 65 years and older admitted to the emergency department (POS 23) in the eligible hospital or CAH during the reporting period are excluded from the denominator

DTR170.314.g2 – 24: Structured Lab EH to EP

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- EP: None
- EH/CAH: Hospital labs send structured electronic clinical lab results to the ordering provider for more than 20 percent of electronic lab orders received.

Measure–specific Informative Test Description:

Per the CMS final rule, this test procedure confines the denominator to lab orders received electronically by EH and CAH laboratories. This test procedure verifies the EHR technology is capable of populating the denominator with electronic lab orders received and populating the numerator with lab results sent to Ambulatory providers.

The test data set for the Stage 2 measure is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the lab orders and lab results to be sent to Ambulatory providers, within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- “Finally, all other aspects of meaningful use in Stage 1 and Stage 2 focus on the inpatient and emergency departments of a hospital. This objective is not related to these departments, and in fact excludes services provided in these departments.”
- “However, the statutory definition of a "meaningful EHR user" under section 1886(n)(3) of the Act does not constrain the use of CEHRT to the inpatient department of the hospital. The definition requires in part that an eligible hospital must use CEHRT "for the electronic exchange of health information to improve the quality of health care, such as promoting care coordination" (section 1886(n)(3)(A)(ii)), which the objective of providing structured electronic lab results to ambulatory providers would support.”
- “While we considered lowering the threshold to 10 percent, the denominator limitation that the lab order must be received electronically already limits the measure to those ordering providers capable of submitting electronic orders and implies at least some electronic health information exchange has been established between the hospital and the ordering provider.
- “In order to be counted in the numerator, the hospital would need to use CEHRT to send laboratory results to the ambulatory provider in a way that has the potential for electronic

incorporation of those results as structure data. Methods that have no potential for automatic incorporation such as "portal view" do not count in the numerator."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory: None

Inpatient:

- Numerator: Hospital lab orders in the denominator for which structured electronic clinical lab results were sent to the ordering provider
- Denominator: For a given reporting period, the number of electronic lab orders received by the hospital

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory: None

Inpatient:

- Numerator:
  - Electronic result(s) sent by hospital lab to ordering provider
- Denominator:
  - Report period start and end date
  - Electronic order(s) received by hospital lab

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 24.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - Structured Lab EH to EP - MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 24.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based

meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 24.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - Structured Lab EH to EP - MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 24.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 24.01 and the resulting percentage

TE170.314.g2 – 24.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - Structured Lab EH to EP – MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 24.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - Structured Lab EH to EP – MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients

TE170.314.g2 – 24.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - Structured Lab EH to EP – MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 24.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 24.07: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 24.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 24.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 24.03: Using the information provided in TD170.314g1/g2 - Structured Lab EH to EP, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 24.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as

indicated in the "Denominator Increment" and "Numerator Increment" columns in TD170.314g1/g2 - Structured Lab EH to EP

Inspection Test Guide for g1

IN170.314.g1 – 24.01: Using the information provided in TD170.314.g1/g2 - Structured Lab EH to EP, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314.g1 – 24.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314.g1/g2 – Structured Lab EH to EP and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 24.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – Structured Lab EH to EP

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. For Vendor-supplied data, the Tester will designate the Test Cases and the Vendor will supply the laboratory orders.

The test data set only applies to the Stage 2 measure, as the Structured Lab EH to EP objective is new for Stage 2 of meaningful use. The objective/measure and associated test data is only applicable in the Inpatient setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – Structured Lab EH to EP – MU2—1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – Structured Lab EH to EP –MU2 – 2: The use of "-" in the Stage 2 test data of this section indicates there is no instance where the numerator can be populated without populating the denominator.
- 170.314g1/g2 – Structured Lab EH to EP –MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – Structured Lab EH to EP –MU2 – 4: Tester shall select a minimum of 1 Test Case

- 170.314g1/g2 – Structured Lab EH to EP –MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of electronic lab orders received by the hospital labs during the reporting period; the number of structured clinical lab results sent to the ordering provider will populate the numerator if it is recorded by the EH/CAH (POS 21 and POS 23) during the reporting period
- The following exclusions are represented in the test data:
    - All electronic orders received and results sent from Inpatient department (POS 21) or emergency department (POS 23)

DTR170.314.g2 – 25: Electronic Medication Administration Record (eMAR)

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- EP: None
- EH/CAH: More than 10 percent of medication orders created by authorized providers of the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period for which all doses are tracked using eMAR

Measure–specific Informative Test Description:

This test procedure evaluates an EHR's capability to track all medication doses administered using electronic medication administration record (eMAR). The test procedure does not evaluate the EHR technology's ability to provide a report with an average daily Inpatient census of fewer than ten patients in order for an EH/CAH to attest to an exclusion from reporting eMAR.

The test data set for the Stage 2 measures is ONC and Vendor-supplied. ONC provides the test data scenarios and parameters. The Vendor supplies the medications and their respective doses within the parameters for the Tester-selected set.

CMS Final Rule References

Per Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 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:

- "We further note that the percentage threshold does allow hospitals to implement eMAR in a limited capacity, and that a hospital could potentially meet the low measure of this objective by implementing in a single ward or unit or by implementing in several smaller wards or units that combine to yield more than 10 percent of medication orders created during the EHR reporting period."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory: None

Inpatient:

- Numerator: Number of medication orders in the denominator for which all doses are tracked using eMAR
- Denominator: For a given reporting period, number of medication orders created by authorized providers in the eligible hospital's or CAH's Inpatient or Inpatient department (POS 21 or 23)

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory: None

Inpatient:

- Numerator:
  - Medication order in the denominator for which all doses are tracked using eMAR
- Denominator:
  - Reporting period start and end date
  - Medication order created by authorized provider

Normative Test Procedure

Required Vendor Information

VE170.314.g2 – 25.01: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314g1/g2 - eMAR - MU2 - 1: Test Data Set-Up for New Patient (Populate numerator and/or denominator)

VE170.314.g2 – 25.02: Vendor shall identify the EHR function(s) that are available to: 1) support method(s) capable of populating the numerator and denominator, if not recorded automatically, for each meaningful use objective with a percentage-based meaningful use measure, 2) electronically record the numerator and denominator for the measure, and 3) create a report that includes the numerator, denominator, and resulting percentage

Required Test Procedure

TE170.314.g2 – 25.01: Prior to the start of the test, the Vendor populates the EHR with all test patients and/or actions indicated in TD170.314g1/g2 - eMAR - MU2 - 1: Test Data Set-Up for New Patient

TE170.314.g2 – 25.02: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create a report that includes the numerator and denominator values populated in TE170.314.g2 – 25.01 and the resulting percentage

TE170.314.g2 – 25.03: The Tester selects one or more Test Cases from TD170.314g1/g2 - eMAR – MU2 - 3: Add New Patient or Modify Existing Patient to cause the EHR to populate the numerator and denominator of new patients or existing patients

TE170.314.g2 – 25.04: The Tester selects one or more Test Cases from TD170.314g1/g2 - eMAR – MU2 - 4: Add New Patient or Modify Existing Patient to populate the denominator only of new patients or existing patients from TE170.314.g2 – 25.03 and/or TE170.314.g2 – 25.04

TE170.314.g2 – 25.05: The Tester selects one or more Test Cases from TD170.314g1/g2 - eMAR – MU2 - 5: Add New or Modify Existing Patient that does not populate the numerator or denominator of new or existing patients

TE170.314.g2 – 25.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator, denominator, and resulting percentage

TE170.314.g2 – 25.07: Using the Inspection Test Guide, the Tester shall verify that a report that includes the numerator, denominator, and resulting percentage is created correctly and without omission, based on the Vendor-supplied test data and added Tester-selected Test Cases from the ONC-supplied test data, and reflecting the method(s) used to populate the numerator and denominator. The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for g2

IN170.314.g2 – 25.01: The Tester shall verify that the numerator and denominator for each percentage-based meaningful use measure were recorded correctly and without omission for all Tester selected test patients and/or actions

IN170.314.g2 – 25.02: The Tester shall verify the method(s) demonstrated by the Vendor to populate and record the numerator and denominator are complete and accurate

IN170.314.g2 – 25.03: Using the information provided in TD170.314g1/g2 - eMAR, the Tester shall verify that a report including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314.g2 – 25.04: The Tester shall verify that the numerator, denominator, and resulting percentage are accurate and reflect the expected results for the selected Test Cases as indicated in the “Denominator Increment” and “Numerator Increment” columns in TD170.314g1/g2 - eMAR

Inspection Test Guide for g1

IN170.314.g1 – 25.01: Using the information provided in TD170.314.g1/g2 - eMAR, the Tester shall verify that a report including the numerator is created correctly and without omission and includes sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314.g1 – 25.02: The Tester shall verify that the report reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314.g1/g2 – eMAR and verify the expected results include an individual data element level reference to date and time

IN170.314.g1 – 25.03: If the EHR technology has the capability to report the numerator value for the measure with denominator limitations applied, the Tester shall verify that the numerator reflects the expected results for the selected Test Cases as indicated in the "Numerator Increment" column of TD170.314.g1/g2 – eMAR

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. For Vendor-supplied data, the Tester will designate the test data set and the Vendor will supply the medication orders and their respective doses within the parameters for the Tester-selected set. The test data for eMAR represent a combination of new and existing patients for which medication orders will be tracked using electronic medication administration record (eMAR).

New patients may appear as existing patients in subsequent test data patient scenarios to reflect an additional order that will be tracked using eMAR.

The test data set only applies to the Stage 2 measure, as the eMAR objective is new for Stage 2 of meaningful use. The objective/measure and associated test data is only applicable in the Inpatient setting.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314g1/g2 – eMAR – MU2 – 1. The Tester will create a "baseline measure report" and record the number in the numerator, the number in the denominator, and the resulting percentage.

For 170.314g1, the test data indicate where a report captures the completed action and its associated time and date, without its denominator limitations applied.

The Tester will select a range of Test Cases from the four remaining test data scenarios of the test data.

- 170.314g1/g2 – eMAR – MU2 – 2: The use of "-" in this section indicates that there is no instance where the numerator can be populated without populating the denominator
- 170.314g1/g2 – eMAR – MU2 – 3: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – eMAR – MU2 – 4: Tester shall select a minimum of 1 Test Case
- 170.314g1/g2 – eMAR – MU2 – 5: Tester shall select a minimum of 1 Test Case

The Tester will create a "test measure report" that reflects the executed test procedure steps and record the number in the numerator, the number in the denominator, and the resulting percentage.

Additionally,

- The denominator is confined to the number of medication orders created by authorized providers in the eligible hospital's or CAH's Inpatient or emergency department (POS 21 or 23) during the EHR reporting period; a medication order will populate the numerator if all doses are tracked using eMAR

- No exclusions are represented in this test data set

CONFORMANCE TEST TOOLS

The following testing tools are available to evaluate conformance to the standards referenced in this test procedure (DTR170.314g2 – 17 Medication Reconciliation and DTR170.314g2 – 18 Summary of Care):

- Transport Testing Tool (TTT) – NIST provides a web application Transport Testing Tool designed to support this test procedure. This test will not involve transport testing, however The Transport Testing Tool includes the capability to verify Consolidated CDA documents. This component of the Transport Testing Tool relies on Model Driven Health Tools (MDHT) for Consolidated CDA validation developed by ONC.
    - The application can be downloaded for local installation
    - NIST is making available the web-site for pre-testing
    - The Transport Testing Tool is available at: http://hit-testing.nist.gov:9100/ttt
    - Documentation for the MDHT project used for C-CDA validation is available at: https://www.projects.openhealthtools.org/sf/projects/mdht/

Support for this tool is available through the ONC-NIST co-managed Transport Testing Tool Google Group. Access to the Transport Testing Tool Google Group is available at: https://groups.google.com/d/forum/transport-testing-tool

Transport Testing Tool Contact:
Kevin Brady (transport-testing-tool@googlegroups.com)
Leader, Systems Interoperability Group
Acting Leader, Cyber Infrastructure Group
National Institute of Standards and Technology (NIST)
Information Technology Laboratory

The following information is provided to assist the Tester in interpreting the conformance reports generated by the NIST conformance testing tools:

The NIST Transport Testing Tool, via MDHT, evaluates individual conformance statements which have been derived from the standards and the "HL7 Implementation Guide for CDA® Release 2: IHE Health Story Consolidation, DSTU Release 1.1 (US Realm) Draft Standard for Trial Use July 2012" identified in the Final Rule and the test data provided in this test procedure. The validation tools evaluate the submitted HL7 message instance for each conformance statement, and then produce a conformance report. The Tester should consider that a report containing only Affirmative and Warning messages indicates general conformance to the standard and test data expectations. If reported, errors should be considered as significant departures from the standard or test data requirements which need to be corrected in order to claim conformance. ATLs will need to further analyze each error to determine if, in the context of meeting the criterion and overall meaningful use objective, the error results in a failure of the test procedure by the EHR technology. The tester may need to inspection test data values derived from required vocabularies and code sets.

Document History

Version Number	Description	Date Published
1.0	Released for Public Comment	October 31, 2012