The Office of the National Coordinator for Health Information Technology

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

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

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

CERTIFICATION 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.

[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
[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.

§170.314(g)(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.

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. For example, there are two options for counting emergency department admissions. If an EHR technology developer only included one option in its EHR technology for certification, the EHR technology developer would take away the flexibility granted to the EP, EH or CAH by CMS. We believe that this flexibility should be available to all EPs, EHs, and CAHs regardless of what Certified EHR Technology they utilize."

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"

Table 1

The following table provides a description of the Stage 1 Medicare and Medicaid Electronic Health Record (EHR) Incentive Program objectives supported by the measure calculation (§170.314(g)(2)) and numerator recording (§170.314(g)(1)) certification criteria.

Testing Crosswalk for 170.314(g)(1) and 170.314(g)(2)		
Meaningful Use **Stage 1 and 2 Percentage-Based Measures**	**Certification Criteria that Directly Correlate with Utilization Expected by Meaningful Use Percentage-based measure(s)**	**Comments, Additional Certification Criteria**
DTR170.314(g)(1)/(2) – 4: Problem List	§170.314(a)(5) Problem list	No Stage 2 Measure
DTR170.314(g)(1)/(2) – 5: Medication List	§170.314(a)(6) Medication list	No Stage 2 Measure
DTR170.314(g)(1)/(2) – 6: Medication Allergy List	§170.314(a)(7) Medication Allergy list	No Stage 2 Measure
DTR170.314(g)(1)/(2) – 7: Computerized Provider Order Entry (CPOE)	§170.314(a)(1) Computerized Provider Order Entry §170.314(a)(6) Medication list	§170.314(a)(6) Medication list required for Stage 1 measure calculation for (g)(2) only
DTR170.314(g)(1)/(2) – 8: Electronic Prescribing (eRx)	§170.314(b)(3) Electronic prescribing §170.314(a)(10) Drug Formulary Checks	§170.314(a)(10) Drug Formulary Checks required for Stage 2 measure calculation (g)(2) and numerator recording (g)(1) only
DTR170.314(g)(1)/(2) – 9: Demographics	§170.314(a)(3) Demographics	
DTR170.314(g)(1)/(2) – 10: Vital Signs	§170.314(a)(4) Vital signs, body mass index, and growth charts	
DTR170.314(g)(1)/(2) – 11: Smoking Status	§170.314(a)(11) Smoking status	
DTR170.314(g)(1)/(2) – 12: Lab Results Incorporated	§170.314(b)(5)(A) Incorporate laboratory tests and values/results §170.314(b)(5)(B) Incorporate laboratory tests and values/results	
DTR170.314(g)(1)/(2) – 13: Patient Reminders	Supported by §170.314(a)(14) Patient list creation	Required for (g)(2) testing of Complete EHR
DTR170.314(g)(1)/(2) – 14: View, Download, Transmit (VDT)	§170.314(e)(1) View, download, and transmit to 3rd party	
DTR170.314(g)(1)/(2) – 15: Clinical Summary	§170.314(e)(2) Ambulatory setting only—clinical summary	
DTR170.314(g)(1)/(2) – 16: Patient Education	§170.314(a)(15) Patient-specific education resources	

Testing Crosswalk for 170.314(g)(1) and 170.314(g)(2)		
Meaningful Use **Stage 1 and 2 Percentage-Based Measures**	**Certification Criteria that Directly Correlate with Utilization Expected by Meaningful Use Percentage-based measure(s)**	**Comments, Additional Certification Criteria**
DTR170.314(g)(1)/(2) – 17: Medication Reconciliation	§170.314(b)(4) Clinical information reconciliation	§170.314(b)(1) Transitions of care – receive, display, and incorporate summary care records ***may*** support electronic receipt of transitions of care/referral summaries in Stage 2
DTR170.314(g)(1)/(2) – 18: Summary of Care	§170.314(b)(2) Transitions of care - create and transmit transition of care/referral summaries	Measure calculation (g)(2) for the Stage 2 Measure #2 is supported by §170.314(b)(2) Transitions of care - create and transmit transition of care/referral summaries; Similarly the Stage 2 Measure #1 is supported §170.314(b)(2) does not alone rely on the use of EHR technology certified to §170.314(b)(2) to count actions in the measure's numerator.
DTR170.314(g)(1)/(2) – 19: Secure Electronic Messaging	§170.314(e)(3) Ambulatory setting only—secure messaging	No Stage 1 Measure
DTR170.314(g)(1)/(2) – 20: Imaging	§170.314(a)(12) Image Results	No Stage 1 Measure
DTR170.314(g)(1)/(2) – 21: Family Health History	§170.314(a)(13) Family health history	No Stage 1 Measure
DTR170.314(g)(1)/(2) – 22: Electronic Notes	§170.314(a)(9) Electronic notes	No Stage 1 Measure
DTR170.314(g)(1)/(2) – 23: Advance Directives	§170.314(a)(17) Inpatient setting only—advance directives	
DTR170.314(g)(1)/(2) – 24: Structured Lab EH to EP	170.314(b)(6) Inpatient setting only—transmission of electronic laboratory tests and values/results to ambulatory providers	No Stage 1 Measure
DTR170.314(g)(1)/(2) – 25: Electronic Medication Administration Record (eMAR)	§170.314(a)(16) Inpatient setting only—eMAR	No Stage 1 Measure

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 measure elements in Module EHR technology in a manner that defines the numerator more accurately than a numerator without denominator limitations.

The 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)(1)/(2). The Tester and Vendor will follow all §170.314(g)(1)/(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
    - Vendors presenting Complete EHR technology, and Vendors presenting Module EHR technology that opt to test to §170.314(g)(2) will follow the Inspection Test Guide for §170.314(g)(2); 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); Labs will refer to the "Numerator Recorded" column in the Test Data spreadsheet.

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.

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, certified EHR technology should 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 one or more method(s) by which the numerator and denominator can be populated.

This document 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 EHR technology to create reports for measures for a specified reporting period, including and not limited to: any 90 consecutive days within a calendar year, including 90 consecutive day periods that span across more than 3 months (e.g. Beginning May 12th), calendar year quarters (first, second, third, fourth), calendar year, 90 consecutive days within a federal fiscal year, federal fiscal year quarters (first, second, third, fourth), and federal fiscal year. For Ambulatory settings, this test procedure addresses the capability of EHR technology to report measures only for patients seen by the EP, where applicable. For Inpatient settings, this test procedure addresses the capability for EHR technology 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 test procedure addresses the capabilities to record the numerator and denominator and resulting percentage for §170.314(g)(2) and numerator only for §170.314(g)(1) for 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 measure elements for each measure
    - The Tester records all numerator and denominator measure 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, as applicable to §170.314(g)(1) and §170.314(g)(2), for each measure, the Tester proceeds to create a measure report

- The Tester verifies that the numerator and denominator, as applicable to §170.314(g)(1) and §170.314(g)(2), recorded are accurate and complete, based on the measure elements described in the Inspection Test Guide

Within each of the 19 measure-specific sections, the 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 at least one Test Case 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 Test Cases 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 Test Cases 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 Test Cases 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, and denominator and resulting percentage (for g2 only) 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 (delta report)
    - The Tester verifies that the increments in the numerator and denominator, and the resulting percentage produced in the delta 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide for each measure

Each measure-specific Informative Test Description provides a Measure Element list and English Statements for each measure. The English Statements derive from the CMS Stage 2 final rule definitions of a measure's numerators and denominators. The Measure Element list deconstructs the English Statements to provide the discrete measure elements for recording the numerator (g1, g2) and denominator (g2 only).

The test procedures for §170.314(g)(1) and §170.314(g)(2) will include measure 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 imaging 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

The test data for §170.314(g)(1) and §170.314(g)(2) is ONC and Vendor supplied. ONC supplies Test Cases to be used during the test, and the Vendor supplies information as directed in the test data. The test data is organized into 5 Test Data Scenarios. Within each Test Data scenario are Test Cases (designated as 1.1 to 5.x). Each notation represents a single Test Case. The first Test Data Scenario requires set up and all Test Cases (1.1 to 1.x) are provided for Vendor set up in preparation for testing as indicated in Required Vendor Information (VE test steps) within the Normative Test Procedure. In subsequent Test Data Scenarios (2-5), the Tester shall select one or more Test Cases from each scenario (e.g. 2.x, 3.x, 4.x, 5.x) to demonstrate different combinations of populating the numerator (g1,g2) and denominator (g2 only).

Referenced Standards

None

Derived Test Requirements – Global

These Derived Test Requirements (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:

DTR170.314(g)(1)/(2) – 1: Adjust Reporting Period and Stage 13

DTR170.314(g)(2) – 2: Attribute Measure Actions to Appropriate Ambulatory Provider (Ambulatory Only) 14

DTR170.314(g)(2) – 3: Select Method to Determine Admissions (Inpatient Only) 16

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:

DTR170.314.g2 – 4: Problem List 19

DTR170.314.g2 – 5: Medication List 24

DTR170.314.g2 – 6: Medication Allergy List 29

DTR170.314.g2 – 7: Computerized Provider Order Entry (CPOE) 34

DTR170.314.g2 – 8: Electronic Prescribing (eRx) 43

DTR170.314.g2 – 9: Demographics 51

DTR170.314.g2 – 10: Vital Signs 57

DTR170.314.g2 – 11: Smoking Status 68

DTR170.314.g2 – 12: Lab Results Incorporated 74

DTR170.314.g2 – 13: Patient Reminders 80

DTR170.314.g2 – 14: View, Download, Transmit (VDT) 86

DTR170.314.g2 – 15: Clinical Summary 98

DTR170.314.g2 – 16: Patient Education 101

DTR170.314.g2 – 17: Medication Reconciliation 107

DTR170.314.g2 – 18: Summary of Care 117

DTR170.314.g2 – 19: Secure Electronic Messaging 127

DTR170.314.g2 – 20: Imaging 129

DTR170.314.g2 – 21: Family Health History 138

DTR170.314.g2 – 22: Electronic Notes **144**

DTR170.314.g2 – 23: Advance Directives **150**

DTR170.314.g2 – 24: Structured Lab EH to EP **155**

DTR170.314.g2 – 25: Electronic Medication Administration Record (eMAR) **161**

DERIVED TEST REQUIREMENTS – GLOBAL

DTR170.314(g)(1)/(2) – 1: Adjust Reporting Period and Stage

The following Global Derived Test Requirement shall be tested for §170.314(g)(1) Automated numerator recording and §170.314(g)(2) Automated measure calculation for the Ambulatory setting and Inpatient settings.

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) Test Data Scenario 1

VE170.314(g)(1)/(2) – 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(g)(1)/(2) – 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(g)(1)/(2) – 1.01: Prior to the start of the test, the Vendor populates the EHR with all Test Cases indicated in the selected measure's Test Data Scenario 1

TE170.314(g)(1)/(2) – 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):

- Ambulatory: Eligible Professional Reports: Any 90 consecutive days within a calendar year, including 90 day periods that span across more than 3 months (e.g. Beginning May 12th); calendar year quarters (first, second, third, fourth); and calendar year
- Inpatient: Eligible Hospital/ Critical Access Hospital Reports: Any 90 consecutive days within a federal fiscal year; federal fiscal year quarters (first, second, third, fourth); and federal fiscal year

TE170.314(g)(1)/(2) – 1.03: Using Vendor-identified EHR functions, the Tester causes the EHR to demonstrate the capability to select and create report(s) for both Stage 1 and Stage 2 of meaningful use

Inspection Test Guide for (g)(1) and (g)(2):

IN170.314(g)(1)/(2) – 1.01: The Tester shall verify that the Vendor is able to accurately adjust the reporting period types in TE170.314(g)(1)/(2) – 1.02 and that the numerator (g1, g2) and denominator (g2 only) information is accurate and complete for each reporting period and meaningful use stage

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

The following Global Derived Test Requirement shall be tested for §170.314(g)(2) Automated measure calculation for the Ambulatory setting.

For Stage 1 and Stage 2 meaningful use measures where population of the numerator is dependent on actions performed directly by the EP or during an office visit with the EP, this test ensures that the EHR has the capability to populate the numerator and denominator for the EP based on these actions and office visits.

If a patient is seen by multiple EPs or has a non-EP office visit using EHR technology 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.

Table 2

The following table provides the Measure-Specific Derived Test Requirements that are required to be tested for DTR170.314(g)(2) – 2 and supporting language, from the CMS Stage 2 Final Rule.

Measure-Specific Derived Test Requirement	
DTR170.314(g)(2) – 7: Computerized Provider Order Entry (CPOE)	"More than 30 percent of medication, [laboratory, and radiology] orders **created by the EP** during the EHR reporting period are recorded using computerized provider order entry."
DTR170.314(g)(2) – 8: Electronic Prescribing (eRx)	"More than 50 percent of all permissible prescriptions or all prescriptions, **written by the EP** are queried for a drug formulary and transmitted electronically using CEHRT."
DTR170.314(g)(2) – 12: Lab Results Incorporated	"…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.
DTR170.314(g)(2) – 14: View, Download, Transmit (VDT)	"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"
DTR170.314(g)(2) – 15: Clinical Summary	"Number of **office visits conducted by the EP** during the EHR reporting period."
DTR170.314(g)(2) – 16: Patient Education	"Patient-specific education resources identified by Certified EHR Technology 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."
DTR170.314(g)(2) – 17: Medication Reconciliation	"…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**."
DTR170.314(g)(2) – 18: Summary of Care	"…**the EP 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…"

DTR170.314(g)(2) – 20: Imaging	"Number of tests whose result is one or more images **ordered by the EP** or by an authorized provider on behalf of the eligible hospital or CAH for patients admitted to its inpatient or emergency department (POS 21 and 23) during the EHR reporting period."
DTR170.314(g)(2) – 22: Electronic Notes	"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."

Required Vendor Information

VE170.314(g)(2) – 2.01: The Vendor shall identify at least one test patient

VE170.314(g)(2) – 2.02: The Vendor shall identify at least two Eligible Professionals (EPs) for this test

VE170.314(g)(2) – 2.03: Using Vendor-supplied test data, the Vendor shall identify at least one measure and corresponding test data for this test

VE170.314(g)(2) – 2.04: The Vendor shall create test data for the patient(s) and EPs identified in VE170.314(g)(2) – 2.01 and VE170.314(g)(2) – 2.02 for the measure identified in VE170.314(g)(2) – 2.03

VE170.314(g)(2) – 2.05: The Vendor shall identify the EHR function(s) to select the EP for reporting of the automated measure calculation ((g)(2))

Required Test Procedure:

TE170.314(g)(2) – 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 (these may be two separate reports) that includes the test data input in VE170.314(g)(2) – 2.04

TE170.314(g)(2) – 2.02: The Tester causes the EHR to increment the numerator of patients entered for one of the two Eligible Professionals

TE170.314(g)(2) – 2.03: Using Vendor identified EHR functions, the Tester causes the EHR to create a report for both Eligible Professionals (these may be two separate reports)

TE170.314(g)(2) – 2.04: The Tester shall verify that a report that includes the numerator, denominator, and resulting percentage (g2 only) is created correctly and without omission, based on the Vendor-supplied test data and actions performed in TE170.314(g)(2) – 2.02, and reflects the method(s) used to populate the numerator and denominator. The Tester uses the English Statements 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 (g)(2)

IN170.314(g)(2) – 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

DTR170.314(g)(2) - 3: Select Method to Determine Admissions (Inpatient Only)

The following Global Derived Test Requirement shall be tested for §170.314(g)(2) Automated measure calculation for the Inpatient setting.

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)."

EHR technology must allow an Eligible Hospital or Critical Access Hospital (EH/CAH) to select either method for calculating admissions; however, this test procedure tests that EHR technology allows EHs and CAHs to use both methods for calculating admissions.

In subsequent testing of measure-specific derived test requirements, DTR170.314(g)(1)/(2) – 4 through DTR170.314(g)(1)/(2) – 25, the Vendor shall select a single approach for calculating inpatient admissions where applicable.

Table 3

The following table provides a list of all Measure-specific Derived Test Requirements for which DTR170.314(g)(2) – 3 applies to.

Measure-specific Derived Test Requirements for DTR170.314(g)(2) – 3
DTR170.314(g)(2) – 4: Problem List
DTR170.314(g)(2) – 5: Medication List
DTR170.314(g)(2) – 6: Medication Allergy List
DTR170.314(g)(2) – 9: Demographics
DTR170.314(g)(2) – 10: Vital Signs
DTR170.314(g)(2) – 11: Smoking Status
DTR170.314(g)(2) – 16: Patient Education

DTR170.314(g)(2) – 21: Family Health History
DTR170.314(g)(2) – 22: Electronic Notes
DTR170.314(g)(2) – 23: Advance Directives

Required Vendor Information

VE170.314(g)(2) – 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 21)
- (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 21)
- (E) Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)

VE170.314.(g)(2) – 3.02: The Vendor shall identify the EHR function(s) to select the reporting of the automated measure calculation (g2 only) using both the "Observation Services Method" and the "All ED Visits Method"

Required Test Procedure

TE170.314(g)(2) – 3.01: Prior to the start of the test, the Vendor populates the EHR with all Test Cases indicated in Test Data Scenario 1 for each applicable Measure-specific Test Data set (refer to Table 2 for complete list)

TE170.314(g)(2) – 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(g)(2) – 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 (g)(2)

IN170.314(g)(2) – 3.01: The Tester shall verify that the Vendor included patients and encounter information for all scenarios identified in each Measure-specific Test Data Scenario 1:

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

IN170.314(g)(2) – 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)
- (B) Admitted to the ED and then admitted to the inpatient department (POS 21)
- (D) Admitted to the ED and received observation services and then admitted to the inpatient department (POS 21)
- (E) Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)

IN170.314(g)(2) – 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 21)
- (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 21)
- (E) Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)

DERIVED TEST REQUIREMENTS – MEASURE-SPECIFIC

DTR170.314(g)(1)/(2) – 4: Problem List

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of the EHR to populate the numerator when at least one entry or an entry indicating no known problems is documented on a patient's problem list. For patients with no current or active diagnoses, an entry indicating that no known problems are known must be made to the problem list to populate the numerator. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

An entry in the Problem List will populate the numerator if it is recorded by the EP or authorized provider of the EH/CAH before, during or after the reporting period for a patient who was seen/admitted during the EHR reporting period. As described in the Stage 1 Meaningful Use Specification Sheet, current or active diagnoses or an indication of no known problems are acceptable Problem List entries that will populate the numerator for this measure.

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – Problem List – MU1.

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: Number of unique patients seen by the EP during the EHR reporting period

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: 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:
  - Active or current problem recorded as structured data in problem list
  - No known problem recorded as structured data in problem list
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by EP

Inpatient:

- Numerator:
  - Active or current problem recorded as structured data in problem list
  - No known problem recorded as structured data in problem list
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 4.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1, g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1, g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1, g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 4.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 4.01
TE170.314(g)(1)/(2) – 4.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator of patients entered in VE170.314(g)(1)/(2) - 4.01
TE170.314(g)(1)/(2) – 4.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients from TE170.314(g)(1)/(2) - 4.03
TE170.314(g)(1)/(2) – 4.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 4.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 4.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 4.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases; this includes verification that entries indicating no known problems have populated the numerator
IN170.314(g)(2) – 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(g)(2) – 4.03:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Problem List, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission
IN170.314(g)(2) – 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 (g)(1)/(g)(2) - Problem List

Inspection Test Guide for (g)(1)

IN170.314(g)(2) – 4.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Problem List, the Tester shall verify that the baseline and delta reports including the numerator are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations; this includes verification that entries indicating no known problems have populated the numerator
IN170.314(g)(1) – 4.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) - Problem List
IN170.314(g)(1) – 4.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 4.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Problem List entry details.

The Test Data Scenarios only apply to the Stage 1 measure, as the Problem List objective is no longer a stand-alone measure for Stage 2 of meaningful use. The measure and associated Test Data Scenarios are the same in both the EP and EH/CAH settings.

The Test Data Scenarios for Problem List represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2 - 5 to reflect an additional encounter or action when Problem List entries may be recorded.

The test data column titled “Indication of Problem List Entry or No Known Problems” is included to test that EHR technology is capable of populating the numerator when an active or current (known) problem is entered, and when an indication of no known problems is entered onto the Problem List.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. The term “previously recorded” indicates a prior Problem List entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Problem List - MU1 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

DTR170.314(g)(1)/(2) – 5: Medication List

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate 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 active medication list. For patients with no active medications, an entry indicating that there are no active medications currently prescribed must be made to the active medication list in order to populate the numerator. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

An entry in the Medication List will populate the numerator if it is recorded by the EP or authorized provider of the EH/CAH before, during or after the reporting period for a patient who was seen/admitted during the EHR reporting period. As described in the Stage 1 Meaningful Use Specification Sheet, active medications or an indication of no active medications are acceptable Medication List entries that will populate the numerator for this measure.

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – Medication List – MU1.

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: The number of patients in the denominator who have a medication (or an indication that the patient is not currently prescribed any medication) recorded as structured data
- Denominator: Number of unique patients seen by the EP during the EHR reporting period.

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: Number of unique patients admitted to an eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Medication recorded as structured data in medication list
  - No medications currently prescribed recorded as structured data in medication list
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by EP

Inpatient:

- Numerator:
  - Medication recorded as structured data in medication list
  - No medications currently prescribed recorded as structured data in medication list
- 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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 1: Test Data Scenario 1

VE170.314(g)(1)/(2) – 5.02: Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 5.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 5.01

TE170.314(g)(1)/(2) – 5.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 5.01

TE170.314(g)(1)/(2) – 5.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients from TE170.314(g)(1)/(2) – 5.03

TE170.314(g)(1)/(2) – 5.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 5.05: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 5.06: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 5.07: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases; this includes verification that entries indicating no known medications have populated the numerator

IN170.314(g)(2) – 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(g)(2) – 5.03:	Using the information provided in TD170.314(g)(1)/(g)(2) – Medication List, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) – Medication List

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 5.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Medication List, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations; this includes verification that entries indicating no known medications have populated the numerator
IN170.314(g)(1) – 5.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Medication List
IN170.314(g)(1) – 5.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 5.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test and the Vendor will supply the Medication List entry details.

The Test Data Scenarios only apply to the Stage 1 measure, as the Medication List objective is no longer a stand-alone measure for Stage 2 of meaningful use. The measure and associated Test Data Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for Medication List represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Medication List entries may be recorded.

The test data column titled "Indication of Medication List Entry or No Medications Currently Prescribed" is included to test that EHR technology is capable of populating the numerator when an active medication (currently being taken by the patient) is entered, and when an indication of no active medications (patient is not currently prescribed any medication) is entered onto the Medication List.

Prior to the test, the Vendor will enter all patients and associated actions in TD 170.314(g)(1)/(g)(2) - Medication List - MU1 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term “previously recorded” indicates a prior Medication List entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Medication List - MU1 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 6: Medication Allergy List

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of the EHR to populate the numerator when a medication allergy or an indication of no known medication allergies is documented on a patient's active medication allergy list. For patients with no active medication allergies, an entry indicating that there are no active medication allergies must be made to the active medication allergy list in order to populate the numerator. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

An entry in the Medication Allergy List will populate the numerator if it is recorded by the EP or authorized provider of the EH/CAH before, during or after the reporting period for a patient who was seen/admitted during the EHR reporting period. As described in the Stage 1 Meaningful Use Specification Sheet, active medication allergies or an indication of no active medication allergies are acceptable Medication List entries that will populate the numerator for this measure.

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – Medication Allergy List – MU1.

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: The number of unique patients in the denominator who have at least one entry (or an indication that the patient has no known medication allergies) recorded as structured data in their medication allergy list
- Denominator: Number of unique patients seen by the EP during the EHR reporting period.

Inpatient:

- Numerator: The 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 allergy list
- Denominator: Number of unique patients admitted to an eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period.

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Active medication allergy recorded as structured data in medication allergy list
  - No known medication allergies recorded as structured data in medication allergy list
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by EP

Inpatient:

- Numerator:
  - Active medication allergy recorded as structured data in medication allergy list
  - No known medication allergies recorded as structured data in medication allergy list
- 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(g)(1)/(2) – 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

	TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 6.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 6.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 6.01
TE170.314(g)(1)/(2) – 6.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 6.01
TE170.314(g)(1)/(2) – 6.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 6.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 6.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients from
TE170.314(g)(1)/(2) – 6.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 6.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases; this includes verification that entries indicating no known medication allergies have populated the numerator
IN170.314(g)(2) – 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(g)(2) – 6.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Medication Allergy List, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Medication Allergy List

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 6.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) – Medication Allergy List, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations; this includes verification that entries indicating no known medication allergies have populated the numerator
IN170.314(g)(1) – 6.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Medication Allergy List
IN170.314(g)(1) – 6.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 6.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Medication Allergy List entry details.

The Test Data Scenarios only apply to the Stage 1 measure, as the Medication Allergy List objective is no longer a stand-alone measure for Stage 2 of meaningful use. The measure and associated Test Data Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for Medication Allergy List represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Medication Allergy List entries may be recorded.

The test data column titled "Indication that Medication List Entry is Known/ Not Known" is included to test that EHR technology is capable of populating the numerator when an active (known) medication allergy is entered, and when an indication of no known medication allergies is entered onto the Medication Allergy List.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates a prior Medication Allergy List entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - Medication Allergy List - MU1 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 7: Computerized Provider Order Entry (CPOE)

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Professional (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 onward)
- Eligible Hospital/Critical Access Hospital (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
- Eligible Hospital/Critical Access Hospital (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 onward)

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to document that medication orders (Stage 1, Stage 1 Alternative, and Stage 2) and laboratory and radiology orders (Stage 2 only) that are ordered using CPOE populate the numerator. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a patient with at least one medication on his or her medication list is seen by the EP or admitted to the EH or CAH (Stage 1) and when a medication order (Alternative Stage 1 and Stage 2), or laboratory or radiology order (Stage 2) is created using CPOE during the EHR reporting period.

For the Stage 1 measure, at least one medication order entered using CPOE for a patient with at least one medication on his/her medication list will populate the numerator if he or she is seen by the EP or admitted to an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period. For the alternative Stage 1 measure, a medication order entered using CPOE will

populate the numerator if it is ordered by the EP or authorized provider of the EH/CAH during the reporting period.

For the Stage 2 measure, medication, laboratory, and radiology orders entered using CPOE will populate the numerator if created by the EP or an authorized provider within an EH or CAH's POS 21 or 23 during the EHR reporting period. The numerator is populated once per medication, laboratory, or radiology order that is recorded using CPOE by an EP/ authorized provider.

From 2013 onward, Eligible Professionals have the option of using either the Stage 1 measure requirements or the alternative Stage 1 measure requirements. Eligible Professionals participating in Stage 2 of meaningful use will be required to follow the Stage 2 measure requirements. The alternative Stage 1 measure requirements and the Stage 2 measure requirements for medication orders have the same numerator and denominator requirements, but require different thresholds.

EHR technology must have the capability to calculate percentages (g2 only) based on the Stage 1, alternative Stage 1, and Stage 2 measure requirements regardless of what Eligible Professionals may elect to do. At any year in Stage 1, providers may elect to use either the measure requirements defined in the CMS Stage 1 final rule, or the newly defined alternative Stage 1 measure requirements to calculate the percentage for the CPOE measure.

CMS provides EPs, EHs, and CAHs the flexibility to exclude standing orders when attesting measure results to CMS. This test procedure does not test the capability of EHR technology to allow providers to exclude standing orders from the measure denominator (ONC FAQ 11-12-032-2), nor does if test if a non-authorized provider has used CPOE to populate the numerator. In DTR170.314(g)(2) – 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 Alternative Stage 1 & 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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Computerized Provider Order Entry (CPOE) - MU 1/MU 2.

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 types 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: The number of patients in the denominator that have at least one medication order entered using CPOE

- Denominator: Number of unique patients with at least one medication in their medication list seen by the EP during the EHR reporting period
- Alternative Numerator (Effective 2013-Onward): Number of medication orders in the denominator recorded using CPOE
- Alternative Denominator (Effective 2013-Onward): Number of medication orders created by an EP during the EHR reporting period

Inpatient:

- Numerator: The number of patients in the denominator that have at least one medication order entered using CPOE
- Denominator: Number of unique patients with at least one medication in their medication list admitted to an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period
- Alternative Numerator (Effective 2013-Onward): Number of medication orders in the denominator recorded using CPOE
- Alternative Denominator (Effective 2013-Onward): Number of medication orders created by an authorized provider from an inpatient or emergency department setting (POS 21 or 23) during the EHR reporting period

Stage 2 Measure English Statements:

Ambulatory:

- Medication orders
  - Numerator: The number of medication orders in the denominator recorded using CPOE
  - Denominator: Number of medication orders created by an EP during the EHR reporting period
- Radiology orders
  - Numerator: The number of radiology orders in the denominator recorded using CPOE
  - Denominator: Number of radiology orders created by an EP during the EHR reporting period
- Laboratory orders
  - Numerator: The number of laboratory orders in the denominator recorded using CPOE
  - Denominator: Number of laboratory orders created by an EP during the EHR reporting period

Inpatient:

- Medication orders
  - Numerator: The number of medication orders in the denominator recorded using CPOE
  - Denominator: Number of medication orders created by an authorized provider from an inpatient or emergency department setting (POS 21 or 23) during the EHR reporting period
- Radiology orders

    - Numerator: The number of radiology orders in the denominator recorded using CPOE
    - Denominator: Number of radiology orders created by an authorized provider from an inpatient or emergency department setting (POS 21 or 23) during the EHR reporting period
- Laboratory orders
    - Numerator: The number of laboratory orders in the denominator recorded using CPOE
    - Denominator: Number of laboratory orders created by an authorized provider from an inpatient or emergency department setting (POS 21 or 23) during the EHR reporting period

Stage 1 Measure Elements:

Ambulatory:

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

Inpatient:

- Numerator:
    - Patient for whom at least one medication order was entered using CPOE
- Denominator:
    - Reporting period start and end date
    - Unique patient admitted to POS 21 or 23 with at least one medication on his or her medication list
- Alternative Numerator (Effective 2013-Onward):
    - Medication order recorded using CPOE
- Alternative Denominator (Effective 2013-Onward):
    - 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

<u>Required Vendor Information</u>

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 7.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 7.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 7.01 • Stage 1 (Medication Orders Only) • Stage 2 (Medication, Laboratory, and Radiology Orders)
TE170.314(g)(1)/(2) – 7.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 7.01 (Stage 1 only)
TE170.314(g)(1)/(2) – 7.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 7.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 7.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 7.06:	Using Vendor-identified EHR functions, the Tester causes the EHR to create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 7.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only) (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results • Stage 1 (Medication Orders Only) • Stage 2 (Medication, Laboratory, and Radiology Orders)

TE170.314(g)(1)/(2) – 7.08: Using Vendor identified EHR functions, the Tester causes the EHR to demonstrate the capability to calculate Stage 1 measures using the alternative measure requirements

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

- Stage 1 (Medication Orders Only)
- Stage 2 (Medication, Laboratory, and Radiology Orders)

IN170.314(g)(2) – 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(g)(2) – 7.03: Using the information provided in TD170.314 (g)(1)/(g)(2) - CPOE, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

- Stage 1 (Medication Orders Only)
- Stage 2 (Medication, Laboratory, and Radiology Orders)

IN170.314(g)(2) – 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 (g)(1)/(g)(2) - CPOE

IN170.314(g)(2) – 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 measure requirements (using the expected results for Stage 2)

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 7.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - CPOE, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314(g)(1) – 7.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314 (g)(1)/(g)(2) – CPOE

IN170.314(g)(1) – 7.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 7.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test and the Vendor will supply the CPOE medication, laboratory, and radiology order entry details.

Because the measure requirements for Stage 1, Alternative Stage 1, and Stage 2 are different, separate Test Cases are provided to support testing of each stage of meaningful use. The measure and associated Test Data Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for CPOE represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when CPOE orders may be placed.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the use of "-" in the Test Cases indicates there is no instance where the numerator can be populated without populating the denominator; Laboratory and Radiology Stage 1 Test Cases are populated with "-" as these orders are out of scope for Stage 1.

- TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Stage 1 Test Case
    - Although this Test Data Scenario is meant to test population of the numerator only, the values in the Alternative Stage 1 & Required Stage 2 Test data do not reflect this action, as population of the numerator only is only applicable for the Stage 1 test data
- TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- TD170.314(g)(1)/(g)(2) - CPOE - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 8: Electronic Prescribing (eRx)

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (EH/CAH): None

Stage 2 Measure:

- Eligible Professional (EP): More than 50 percent of all permissible prescriptions, or all prescriptions written by the EP are queried for a drug formulary and transmitted electronically using Certified EHR Technology
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to record the number of prescriptions written by the EP in an ambulatory setting, or discharge medication orders in an inpatient setting, to populate the numerator once per prescription transmitted electronically and queried for a drug formulary. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a prescription is written for drugs requiring a prescription in order to be dispensed during the EHR reporting period. Prescriptions that are generated, queried for a drug formulary and transmitted electronically using EHR technology will populate the numerator if ordered by the EP during the EHR reporting period.

Hospital discharge medication orders for permissible prescriptions that are generated, queried for a drug formulary and transmitted electronically using EHR technology will populate the numerator if ordered for a patient discharged during the EHR reporting period for Stage 2 only.

If the EHR technology presented for certification permits the electronic transmission of controlled substances, the EHR technology must be evaluated for the capability to prescribe a controlled substance and populate the numerator (ONC FAQ 11-12-032-2). Controlled substances are only eligible for inclusion in numerator (g1,g2) and denominator (g2 only) values for the Stage 2 measure. In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

In this test procedure, the Vendor will demonstrate the capability to query a drug formulary for prescriptions written in order to populate the numerator. This test procedure does not assess that the

drug formulary query function is on or off, but rather, assesses the capability of EHR technology to query the drug formulary for every prescription that is transmitted electronically.

For Eligible Hospitals or Critical Access Hospitals that transmit prescriptions both within and outside the organization, this test procedure does not evaluate that the EHR is capable of including both types of electronic transmission (those within and outside the organization) in the numerator and denominator for the measure of this objective.

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; however 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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Electronic Prescribing (eRx)- MU 1/MU 2.

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:

Ambulatory:

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

Inpatient:

- Numerator: The number of prescriptions in the denominator generated, queried for 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 other than controlled substances for patients discharged during the EHR reporting period

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Prescription transmitted electronically
- Denominator:
  - Reporting 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
  - New prescription written for drugs requiring a prescription in order to be dispensed for a patient who is discharged
  - Changed prescription written for drugs requiring a prescription in order to be dispensed for a patient who is discharged

- Refilled prescription written for drugs requiring a prescription in order to be dispensed for a patient who is discharged

- Denominator exclusion:
  - Prescription written for controlled substance

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - eRx - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 8.02:	Vendor shall identify the EHR function(s) that are available to electronically prescribe controlled substances, if available (Ambulatory only)
VE170.314(g)(1)/(2) – 8.03:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 8.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 8.01
TE170.314(g)(1)/(2) – 8.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - eRx – MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 8.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - eRx – MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 8.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - eRx – MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 8.05:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 8.06:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester

uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases
IN170.314(g)(2) – 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(g)(2) – 8.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - eRx, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) – eRx
IN170.314(g)(2) – 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 (g)(1)

IN170.314(g)(1) – 8.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - eRx, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314(g)(1) – 8.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – eRx
IN170.314(g)(1) – 8.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 8.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Electronic Prescription entry details.

The requirements for this measure differ based on the capability of the EHR technology to electronically prescribe controlled substances. Separate test data sets are provided to support testing of these

requirements. The first set of test data, “Stage 1 EP Only,” reflects the Stage 1 measure, which requires Electronic Prescribing for medications (other than controlled substances) in the EP setting only.

The second set of test data, “Stage 2 (includes controlled substances) EP Only,” reflects the Stage 2 option that allows Vendors to support EPs in Electronic Prescribing of controlled substances. Additionally, it accounts for the Stage 2 requirement that electronically transmitted prescriptions are queried for a drug formulary. This set of test data is only to be used by Vendors that are capable of electronically prescribing controlled substances and incorporating these prescriptions into measure calculations (g2) or numerator recording (g1).

The third set of test data, “Stage 2 (excludes controlled substances) EP & EH/CAH,” reflects measure requirements for EHR technology that is incapable of electronically prescribing controlled substances, and measure requirements for the EH/CAH setting that accounts for electronic prescription of new, changed or refilled prescriptions for patients who are discharged. This test data set also incorporates the requirement that electronically transmitted prescriptions are queried for a drug formulary. Although the measure requirements are different depending on the capability of the EHR technology to support controlled substances, the associated Test Data Scenarios are the same.

The Test Data Scenarios for Electronic Prescribing represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Electronic Prescriptions may be transmitted.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - eRx - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the use of “-“ in the Test Cases indicates there is no instance where the numerator can be populated without populating the denominator.

- 170.314(g)(1)/(g)(2) - eRx - MU1/MU2 - 2: Test Data Scenario 2 - The use of “-“ in the Test Cases in this section indicates there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - eRx - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - eRx - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - eRx - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 9: Demographics

Measure Description

Stage 1 Measure:

- Eligible Professional (EP): More than 50 percent of all unique patients seen by the EP during the EHR reporting period have demographics recorded as structured data.
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (EP): More than 80 percent of all unique patients seen by the EP during the EHR reporting period have demographics recorded as structured data.
- Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator through documentation of the following demographic fields as structured data: preferred language, decline to provide preferred language, sex (or 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. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

Recording of demographics will populate the numerator if recorded by the EP or authorized provider of the EH/CAH before, during or after the reporting period for a patient who is seen/admitted during the EHR reporting period. Although the Stage 1 measure requires that “gender” be recorded as part of the demographics measure, recording an entry of “sex” is also an acceptable for Stage 1 of meaningful use.

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. The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – TD170.314g1/g2 - Demographics - MU 1/MU 2.

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: The number of patients in the denominator who have all the elements of demographics (or a specific exclusion if the patient declined to provide one or more elements or if recording an element is contrary to state law) recorded as structured data
- Denominator: Number of unique patients seen by the EP during the EHR reporting period.

Inpatient:

- Numerator: The number of patients in the denominator who have all the elements of demographics (or a specific exclusion if the patient declined to provide one or more elements or if recording an element is contrary to state law) recorded as structured data
- Denominator: Number of unique patients admitted to an eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period.

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator:
    - Race recorded as structured data
    - Ethnicity recorded as structured data
    - Sex recorded as structured data (Gender for Stage 1)
    - Date of Birth recorded as structured data
    - Preferred Language recorded as structured data
    - Patient declined to provide race recorded as structured data
    - Patient declined to provide ethnicity recorded as structured data
    - Patient declined to provide language recorded as structured data

- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Inpatient:

- Numerator:
  - Race recorded as structured data
  - Ethnicity recorded as structured data
  - Sex recorded as structured data (Gender for Stage 1)
  - Date of Birth recorded as structured data
  - Preferred Language recorded as structured data
  - Patient declined to provide race recorded as structured data
  - Patient declined to provide ethnicity recorded as structured data
  - Patient declined to provide language recorded as structured data
  - Date of Expiration recorded as structured data (Inpatient only)
  - Preliminary Cause of Death recorded as structured data (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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 9.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 9.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 9.01
TE170.314(g)(1)/(2) – 9.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 9.01

TE170.314(g)(1)/(2) – 9.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 9.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 9.05: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 9.06: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 9.07: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the algorithm described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 9.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Demographics, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Demographics

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 9.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Demographics, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient

	detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314(g)(1) – 9.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Demographics
IN170.314(g)(1) – 9.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 9.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC-supplied. The Tester will designate the Test Cases to be used during the test and Demographic entry details.

The Test Data Scenarios apply to both Stage 1 and Stage 2 measures. Because measure requirements for EP and EH/CAH settings are different, additional required measure elements are provided for the EH/CAH setting (date of death and cause of death) in addition to all measure elements required in the EP setting.

The Test Data Scenarios for Demographics represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Demographic entries may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates a Demographics entry has already triggered the numerator to be recorded, regardless of denominator limitations; the use of "-" indicates there is no instance where only the denominator can be populated.

- 170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Demographics - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 10: Vital Signs

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Professional (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)
- Eligible Hospital/Critical Access Hospital (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
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (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.
- Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when vital signs (height/length, weight, and blood pressure) are within scope and are recorded as structured data. Additionally, the test procedure evaluates the capability of EHR technology 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. The test procedure for §170.314(g)(2) evaluates the capability of EHR technology to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period. Additionally, §170.314(g)(2) evaluates that the EHR technology is capable of incorporating all age and scope exclusions that apply to this measure in order to include or exclude patients from denominator.

EPs, EHs, and CAHs reporting the Stage 1 vitals measure in 2013 can calculate the measure using one of two methods. In the first method, the act of recording height/length, weight, and blood pressure as structured data will populate the numerator if the information is recorded before, during, or after the

reporting period. In order to populate the numerator, the patient for whom the information is recorded must be 2 years or older and must been seen by the EP or admitted to the inpatient or emergency department of the EH/CAH during the EHR reporting period.

The second method EPs, EHs, and CAHs may use in to calculate the Stage 1 vitals measure in 2013 is required from 2014 onward and required for Stage 2. In the second method, the act of recording either

- Height/length, weight (for all patients), and blood pressure (for all patients 3 and over) as structured data
- Height/length and weight as structured data if blood pressure is out of scope, or
- Blood pressure for all patients 3 and over as structured data if height/length and weight are out of scope,

will populate the numerator if the patient for whom the information was recorded was seen by the EP or admitted to the inpatient or emergency department of the EH/CAH during the EHR reporting period.

This test procedure evaluates the capability of EHR technology to support both methods (ONC FAQ 11-12-032-2). This test procedure does not evaluate an EHR technology's capability to document the occurrence of all three vital signs as being 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 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 Cases. If necessary, 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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – TD170.314g1/g2 - Vital Signs - MU 1/MU 2.

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."
- "We recognize that there are situations in which certain providers may only record height and weight and/ or blood pressure for a very limited number of patients (for example, high risk surgical patients or patients on certain types of medication) but do not normally regard these data as relevant to their scope of practice. When a provider does not believe that height and weight and/or blood pressure are typically relevant to their scope of practice but still records these vital signs only in exceptional circumstances, the provider is permitted to claim the exclusions for this measure."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: The number of patients in the denominator who have entries of height/length, weight and blood pressure recorded as structured data (effective 2013 only)
- Denominator: Number of unique patients 2 years of age or older seen by the EP during the EHR reporting period (Effective through 2013 only)
- Numerator: The number of patients in the denominator who have entries of height/length and weight recorded as structured data (Effective 2013 onward for providers for whom blood pressure is out of scope of practice)
- Denominator: Number of unique patients seen by the EP during the EHR reporting period
- Numerator: The number of patients in the denominator who have an entry of blood pressure as structured data (Effective 2013 onward for providers for whom height/length and weight are out of scope of practice)
- Denominator: Number of unique patients 3 or older seen by the EP during the EHR reporting period

- Numerator: If height/length, weight, and blood pressure (all) within scope of practice (Optional 2013; Required effective 2014):
    - Patients 3 years of age or 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 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 or 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:
    - Patients 3 years of age or 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 or 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:

  If height/length, weight, and blood pressure (all) within scope of practice:
    - Number of unique patients seen by the EP during the EHR reporting period

  If height/length and weight (only) within scope of practice:

- Number of unique patients seen by the EP during the EHR reporting period

If blood pressure (only) within scope of practice:

- Number of unique patients 3 years of age or older seen by the EP during the EHR reporting period

Inpatient:

- Numerator:
  - Patients 3 years of age or 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 recorded as structured data
  - Weight recorded as structured data
  - Blood pressure recorded as structured data
- Denominator:
  - Reporting period start and end date
  - Unique patient 2 years of age or older seen by the EP
- Denominator exclusion:
  - Unique patient younger than 2 years of age seen by the EP

Ambulatory (Optional 2013 onward for providers with blood pressure out of scope of practice):

- Numerator
  - Height/length recorded as structured data
  - Weight recorded as structured data
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Ambulatory (Optional 2013 onward for providers with height/length and weight out of scope of practice):

- Numerator
  - Blood pressure recorded as structured data (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient 3 years old or older seen by the EP
- Denominator exclusion:

- Unique patient younger than 3 years of age seen by the EP during the reporting period

Ambulatory (Optional 2013; required effective 2014):

- Numerator
  - Height/length recorded as structured data
  - Weight recorded as structured data
  - Blood pressure recorded as structured data (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Inpatient:

- Numerator
  - Height/length recorded as structured data
  - Weight recorded as structured data
  - Blood pressure recorded as structured data
- Denominator:
  - Reporting period start and end date
  - Unique patient 2 years of age or older admitted to POS 21 or 23
- Denominator Exclusion:
  - Unique patient younger than 2 years of age admitted to POS 21 or 23

Inpatient (Optional effective 2013; required effective 2014):

- Numerator
  - Height/length recorded as structured data
  - Weight recorded as structured data
  - Blood pressure recorded as structured data (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Stage 2 Measure Elements:

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

- Numerator
  - Height/length recorded as structured data
  - Weight recorded as structured data
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

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

- Numerator
  - Blood pressure recorded as structured data (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient 3 years old or older seen by the EP
- Denominator Exclusion:
  - Unique patient younger than 3 years of age seen by the EP

Ambulatory (For Providers with all within scope of practice):

- Numerator
  - Height/length recorded as structured data
  - Weight recorded as structured data
  - Blood pressure recorded as structured data (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Inpatient:

- Numerator:
  - Height/length recorded as structured data
  - Weight recorded as structured data
  - Blood pressure recorded as structured data (Age 3 and older)
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 10.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
VE170.314(g)(1)/(2) – 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 (g1,g2) and denominator (g2 only) for these measures, and 4) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only) 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 (applicable in the EP setting only)

Required Test Procedure

TE170.314(g)(1)/(2) – 10.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 10.01

- Stage 1 - EP
  - All three vitals (age 2 and over)
  - All three vitals with age limitations on blood pressure (age 3 and over)
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice with age limitations on blood pressure (age 3 and over)
- Stage 2 - EP
  - All three vitals with age limitations on blood pressure (age 3 and over)
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice with age limitations on blood pressure (age 3 and over)
- Stage 1 – EH/CAH
  - All three vitals (age 2 and over)
  - All three vitals with age limitations on blood pressure (age 3 and over)
- Stage 2 – EH/CAH
  - All three vitals with age limitations on blood pressure (age 3 and over)

TE170.314(g)(1)/(2) – 10.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 10.01

TE170.314(g)(1)/(2) – 10.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 10.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 10.05: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 10.06: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report for each of the combinations below that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only) for each of the measures below

- Stage 1 - Ambulatory
  - All three vitals (age 2 and over)
  - All three vitals with age limitations on blood pressure (age 3 and over)
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice with age limitations on blood pressure (age 3 and over)
- Stage 2 - Ambulatory
  - All three vitals with age limitations on blood pressure (age 3 and over)
  - Blood pressure out of scope of practice
  - Height/length and weight out of scope of practice with age limitations on blood pressure (age 3 and over)
- Stage 1 – Inpatient
  - All three vitals (age 2 and over)
  - All three vitals with age limitations on blood pressure (age 3 and over)
- Stage 2 – Inpatient
  - All three vitals with age limitations on blood pressure (age 3 and over)

TE170.314(g)(1)/(2) – 10.07: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

<u>Inspection Test Guide for (g)(2)</u>

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 10.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Vital Signs, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Vital Signs

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 10.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Vital Signs, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 10.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Vital Signs

IN170.314(g)(1) – 10.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 10.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test and the Vendor will supply the Vital Signs entry details.

Measure requirements for Stage 1 (2013 only), Alternate Stage 1 (2013 only), and Stage 1 and 2 Required (2014) are different and separate test data sets are provided to support testing of each set of measure requirements; however, these data sets utilize the same set of test patients and associated actions described in each Test Case. The scope exclusions indicated in the test data only apply in the EP setting.

The first set of test data, "Stage 1 (2013 only)", indicates the numerator and denominator values that would result from using the Stage 1 measure requirements from the CMS Stage 1 final rule. This test data set excludes all patients younger than 2 years of age from the denominator and does not allow for any scope exclusions. Population of the numerator will only occur if all three vital signs are recorded for a patient older than 2 years old who is seen or admitted during the EHR reporting period.

The second set of test data, “Alternate Stage 1 (2013) only); Stage 1 & Stage 2 (2014 onward)” are organized by scope of practice. The numerator and denominator values in the category “All Within Scope” would be used in calculations for all EH/CAHs and for any EPs who identify all three vitals as being within their scope of practice. These values account for the age limitation that excludes blood pressure recording for all patients younger than 3 years of age.

The numerator and denominator values in the test data set labeled, “BP Out of Scope (EP Only)” apply to measure calculations for EPs who identify height and weight as being within their scope of practice, but who identify blood pressure as being out of scope. Age exclusions do not apply to this set of test data, as height and weight must be recorded for patients of all ages.

The numerator and denominator values in the test data set labeled “Ht/Wt Out of Scope” apply to measure calculations for EPs who identify blood pressure as being within scope of practice, but who identify height and weight as being out of scope. Because blood pressure is only required to be recorded for patients 3 years of age or older, any patients younger than 3 years of age would not be eligible for inclusion in this denominator. Due to this denominator limitation, recording blood pressure for a patient younger than 3 years of age would not populate the numerator.

The Test Data Scenarios for Vital Signs represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Vital Signs may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios.

- 170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Vital Signs - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 11: Smoking Status

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (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.
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when smoking status has been recorded for a patient who is 13 years of age or older. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a patient 13 years of age or older is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

The act of recording smoking status as structured data will populate the numerator if it is recorded before, during or after the reporting period for a unique patient 13 or older, seen by the EP/admitted to the EH/CAH (POS 21 or POS 23) during the EHR reporting period.

The Stage 2 meaningful use measure requires smoking status to be present in the EHR as structured data according to the SNOMED vocabulary. The SNOMED values for smoking status are provided in the Measure Elements below and the Test Data; however, as EHRs are tested for conformance to the SNOMED vocabulary in 170.314(a)(11), this test procedure does not evaluate conformance to the SNOMED codes. 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 EHR 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.

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

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – TD170.314g1/g2 - Smoking Status - MU 1/MU 2.

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:

- "Information on smoking status must be present as structured data using the standard specified at 45 CFR 170.314(a)(11)."
- "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: The number of patients in the denominator with smoking status recorded as structured data
- Denominator: Number of unique patients age 13 or older seen by the EP during the EHR reporting period

Inpatient:

- Numerator: The number of patients in the denominator with smoking status recorded as structured data
- Denominator: Number of unique patients age 13 admitted to an eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator (SNOMED code required for Stage 2):
  - Current every day smoker recorded as structured data
  - Current some day smoker recorded as structured data
  - Former smoker recorded as structured data
  - Never smoker recorded as structured data
  - Smoker, current status unknown recorded as structured data
  - Unknown if ever smoked recorded as structured data
  - Heavy tobacco smoker recorded as structured data
  - Light tobacco smoker recorded as structured data
- Denominator:
  - Reporting period start and end date
  - Unique patient 13 years of age or 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 recorded as structured data
  - Current some day smoker recorded as structured data
  - Former smoker recorded as structured data
  - Never smoker recorded as structured data
  - Smoker, current status unknown recorded as structured data
  - Unknown if ever smoked recorded as structured data
  - Heavy tobacco smoker recorded as structured data
  - Light tobacco smoker recorded as structured data
- Denominator:
  - Reporting period start and end date
  - Unique patient 13 years of age or 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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 11.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically

record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 11.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 11.01

TE170.314(g)(1)/(2) – 11.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 11.01

TE170.314(g)(1)/(2) – 11.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 11.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 11.05: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 11.06: Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 11.07: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 11.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Smoking Status, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Smoking Status

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 11.01: Using the information provided in TD170.314 (g)(1)/(g)(2) – Smoking Status, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 11.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Smoking Status

IN170.314(g)(1) – 11.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 11.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC-supplied. The Tester will designate the Test Cases to be used during the test and Smoking Status entry details.

The Test Data Scenarios apply to both the Stage 1 and Stage 2 measures. The measure and associated Test Data Scenarios are the same in both the EP and EH/CAH settings.

The Test Data Scenarios for Smoking Status represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Smoking Status may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in TD170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates a prior Smoking Status entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Smoking Status - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 12: Lab Results Incorporated

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to document that incorporation of lab test results that are expressed in positive or negative affirmation or as a numeric value will populate the numerator once for each test ordered. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a clinical lab test, whose results are expressed in a positive or negative affirmation or as a number, is ordered by the EP or authorized provider of the EH/CAH during the EHR reporting period.

CMS provides EPs, EHs, and CAHs the flexibility 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. This test procedure does not test the capability of EHR technology to allow providers to calculate each of these methods (ONC FAQ 11-12-032-2). The Tester should test the method supported by the EHR:

- 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

Incorporation of lab test results in positive or negative affirmation or numerical format will populate the numerator if the results are incorporated into EHR technology as structured data before, during, or after the reporting period for lab tests ordered for patients seen or admitted during the reporting period.

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

In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314(g)(1)/(g)(2) – TD170.314g1/g2 - Lab Results Incorporated- MU 1/MU 2.

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 results 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 which are expressed in a positive or negative affirmation or as a numeric result which are incorporated in CEHRT as structured data (from CMS Stage 2 Final Rule)
- Denominator: Number of lab tests ordered during the EHR reporting period by the EP whose results are expressed in a positive or negative affirmation or as a number

Inpatient:

- Numerator: Number of lab test results which are expressed in a positive or negative affirmation or as a numeric result which are incorporated in CEHRT as structured data (from CMS Stage 2 Final Rule)
- Denominator: Number of lab tests ordered during the EHR reporting period by the authorized providers of the eligible hospital or CAH for patients admitted to an eligible hospital's or CAH's inpatient or emergency department (POS 21 & 23) whose results are expressed in a positive or negative affirmation or as a number

Stage 1 and 2 Measure Elements:

Ambulatory:

- Numerator:
  - Lab result(s) expressed in a positive or negative affirmation incorporated as structured data
  - Lab result(s) 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

Inpatient:

- Numerator:
  - Lab result(s) expressed in a positive or negative affirmation incorporated as structured data

- Lab result(s) 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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Lab Results Incorporated - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 12.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 12.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 12.01
TE170.314(g)(1)/(2) – 12.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Lab Results Incorporated – MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator and denominator of new patients or existing patients
TE170.314(g)(1)/(2) – 12.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Lab Results Incorporated – MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 12.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Lab Results Incorporated – MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 12.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Lab Results Incorporated – MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 12.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 12.07: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 12.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Lab Results Incorporated, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Lab Results Incorporated

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 12.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Lab Results Incorporated, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314(g)(1) – 12.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314 (g)(1)/(g)(2) – Lab Results Incorporated

IN170.314(g)(1) – 12.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 12.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test and the Vendor will supply the Lab Results Incorporated entry details.

The Test Data Scenarios apply to both the Stage 1 and Stage 2 measures. The measure and associated Test Data Scenarios are the same in both the EP and EH/CAH settings.

The Test Data Scenarios for Lab Results Incorporated represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Lab Results Incorporated entries may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Lab Results Incorporated - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios.

- 170.314(g)(1)/(g)(2) - Lab Results Incorporated - MU1/MU2 - 2: Test Data Scenario 2 - The use of "-" indicates there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - Lab Results Incorporated - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Cases
- 170.314(g)(1)/(g)(2) - Lab Results Incorporated - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Cases
- 170.314(g)(1)/(g)(2) - Lab Results Incorporated - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Cases

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 13: Patient Reminders

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (EH/CAH): None

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (EH/CAH): None

Measure–specific Informative Test Description:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator if a patient reminder is sent during the reporting period (Stage 1) and if it is sent per patient preference during the reporting period (Stage 2). The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a patient is 65 years or older or 5 years old or younger (Stage 1), and when a unique patient has had two or more office visits with the EP within the 24 months before the beginning of the EHR reporting period (Stage 2).

For the Stage 1 measure, the act of sending a patient reminder will populate the numerator if it is sent by the EP during the reporting period to a patient 65 years or older or 5 years old or younger with records maintained in the EHR technology. The patients to whom the reminders are sent are not limited to those seen by the EP during the reporting period, but rather, include all patients who fall into the specified age range.

For the Stage 2 measure, the act of sending a patient reminder per patient preference (when available) will populate the numerator if the reminder is sent by the EP during the reporting period to a patient who has had 2 or more office visits with the EP in the 24 months prior to the beginning of the EHR reporting period.

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the

selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Patient Reminders - MU 1/MU 2.

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."
- "…we clarify that reminders must be sent using the preferred communication medium only when it is known by the provider. This is limited to the type of communication (phone, mail, secure messaging, etc.) and does not extend to other constraints like time of day."
- "Patients may decline to provide their preferred communication medium in which case the provider may select the communication medium. A patient may also decline to receive reminders. We believe that this will be rare enough that combined with the 10 percent through, patients declining to receive reminders will not affect the ability of an EP to meet this measure."

Stage 1 Measure English Statements:

Ambulatory:

- Numerator: The number of patients in the denominator who were sent the appropriate reminder during the reporting period
- Denominator: Number of unique patients 65 years old or older or 5 years old or younger

Inpatient: None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: The number of patients in the denominator who were sent a reminder per patient preference, when available during the EHR reporting period
- 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 of age or older
  - Patient 5 years of age 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 per patient preference
  - Patient preference
  - No patient preference available
- 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
- Denominator Exclusion:
  - Unique patient with less than two office visits with the EP in the 24 months prior to the beginning of the EHR reporting period
  - Unique patient with two or more office visits that occurred more than 24 months prior to the beginning of the EHR reporting period

Inpatient: None

Normative Test Procedure

<u>Required Vendor Information</u>

VE170.314(g)(1)/(2) – 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

	TD170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 13.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 13.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 13.01
TE170.314(g)(1)/(2) – 13.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 13.01
TE170.314(g)(1)/(2) – 13.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 13.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 13.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 13.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 13.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results
TE170.314(g)(1)/(2) – 13.08:	The Vendor shall demonstrate and describe the method(s) by which appointment reminders are excluded from inclusion in the numerator (g1,g2)

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases
IN170.314(g)(2) – 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(g)(2) – 13.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Patient Reminders, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Patient Reminders
IN170.314(g)(2) – 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 (g)(1)

IN170.314(g)(1) – 13.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Patient Reminders, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314(g)(1) – 13.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Patient Reminders
IN170.314(g)(1) – 13.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 13.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Patient Reminder content.

Because the measure requirements for Stage 1 and Stage 2 are different, separate Test Cases are provided to support testing of each Stage of meaningful use. The measure and associated Test Data Scenarios are only applicable for use in the EP setting.

The Test Data Scenarios for Patient Reminders represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Patient Reminders may be sent.

The Tester is only required to test at least one method by which a patient reminder may be sent and may use choose to use any method as long as the intent of the "Patient Reminder Sent by Patient Preference" column is met.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates a prior Patient Reminder entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case; although this Test Data Scenario is meant to test population of the denominator only, this action does not apply across Stage 1 and Stage 2 for select Test Cases in this Test Data Scenario due to differences in measure requirements
- 170.314(g)(1)/(g)(2) - Patient Reminders - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 14: View, Download, Transmit (VDT)

Measure Description

Stage 1 and Stage 2 Measures:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator a) when a patient is given timely online access to patient health information and b) when a patient views online, downloads, or transmits patient health information to a third party. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

This test procedure evaluates two measures for the View, Download, Transmit objective. What is hereafter referred to as “Measure A” in this test procedure corresponds to the CMS designated “Measure 1”. Similarly, what is referred to as “Measure B” corresponds to the CMS designated “Measure 2”.

Measure A

Per the CMS final rule, Measure A of View, Download, Transmit is a requirement for EPs and EH/CAHs in both Stage 1 and Stage 2. Measure A replaces the former Stage 1 objectives to provide electronic copies of health information (EP) and discharge instructions (EH/CAH) to patients, in addition to replacing the EP objective to provide timely electronic access to health information that was achieved using 2011 Edition Certified EHR Technology.

For Measure A, the act of giving a patient timely online access to his or her health information will populate the numerator if the information is made available within 4 business days after the information is made available to the EP or within 36 hours of discharge from the EH/CAH, for patients seen by the EP or discharged from the inpatient or emergency department (POS 21 or 23) of the EH/CAH during the EHR reporting period.

Prior to numerator population for Measure A, all CMS required information (or indication of none), must be made available online to the patient within 4 business days of availability to the EP or within 36 hours of discharge from the EH/CAH. This test procedure evaluates if all CMS required information is present prior to numerator population. The Vendor will supply test data to demonstrate numerator recording (g1) or measure calculation (g2) capabilities for Measure A. The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only). If the EHR technology requires provider action(s) (e.g., signed encounter note, discharge summary completed) prior to making all information available online to the patient, the Vendor will demonstrate the method(s) by which this is achieved and the effect on numerator recording (g1) or measure calculation (g2). This test procedure does not evaluate withholding individual data elements (e.g., withholding lab results prior to provider review or action).

Measure B

For Measure B, patients seen by the EP or discharged from the EH/CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period are eligible to populate the numerator if the patient (or an authorized representative) completes the following actions before, during, or after the reporting period:

- Viewing online any (i.e., not all) health information
- Downloading health information
- Transmitting health information to a third party

The test data set for Measure B is ONC and Vendor-supplied and is only applicable to Stage 2, as EPs and EH/CAHs are not required to achieve Measure B for Stage 1. ONC provides the Test Data Scenarios and parameters and the Vendor supplies the patient visit, clinical information, and patient health information for the Tester-selected Test Cases.

This test procedure does not evaluate the capability of EHR technology to distinguish between a patient and a patient-authorized representative who views online, downloads, or transmits information to a third party. In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - View, Download, Transmit: Measure B - MU 2.

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 Eligible Professional (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 A:

- Numerator: The number of patients in the denominator who have timely (within 4 business days after the information is available to the EP) online access to their health information.
- Denominator: Number of unique patients seen by the EP during the EHR reporting period

Ambulatory Measure B:

- Numerator: The number of unique patients (or their authorized representatives) in the denominator who have viewed online, downloaded, or transmitted to a third party the patient's health information.
- Denominator: Number of unique patients seen by the EP during the EHR reporting period.

Inpatient Measure A:

- Numerator: The number of patients in the denominator whose information is available online within 36 hours of discharge
- Denominator: Number of unique patients discharged from an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Inpatient Measure B:

- Numerator: The number of unique patients (or their authorized representatives) in the denominator who have viewed online, downloaded, or transmitted to a third party the discharge information provided by the eligible hospital or CAH.
- Denominator: Number of unique patients discharged from an eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period

Stage 1 and 2 Measure Elements:

Ambulatory Measure A:

- Numerator:
    - Date information available to the EP

    - Date information made available online to patient
- Denominator:
    - Reporting period start and end date
    - Unique patient seen by the EP

Ambulatory Measure B:

- Numerator:
    - Patient viewed health information
    - Patient downloaded health information
    - Patient transmitted health information
- Denominator:
    - Reporting period start and end date
    - Unique patient seen by the EP

Inpatient Measure A:

- Numerator:
    - Date information made available online to patient
    - Date 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)

Inpatient Measure B:

- Numerator:
    - Patient viewed discharge information
    - Patient downloaded discharge information
    - Patient transmitted discharge 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)

Normative Test Procedure

Required Vendor Information

Measure A Required Vendor Information

VE170.314(g)(1)/(2) – 14.01:	The Vendor shall supply test patients to be used for this test to demonstrate numerator (g1,g2) and denominator (g2 only) population capabilities for Measure A
VE170.314(g)(1)/(2) – 14.02:	The Vendor shall identify the EHR function(s) available to 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2

only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, 3) create a report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only), 4) verify if information was provided online to a patient within 4 business days of availability to the EP (ambulatory only) or within 36 hours of discharge (inpatient only), and 5) withhold all available patient information from release prior to provider action(s) (if applicable)

Measure B Required Vendor Information

VE170.314(g)(1)/(2) – 14.03: Using ONC-supplied and Vendor-supplied test data, the Vendor shall create test patients to be used for this test as indicated in TD170.314(g)(1)/(g)(2) - VDT - MU1/MU2 - 1: Test Data Scenario 1

VE170.314(g)(1)/(2) – 14.04: The Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only), and 4) verify if the patient (or an authorized representative) has viewed, downloaded, or transmitted health information (g1,g2)

Required Test Procedure

Measure A Required Test Steps

TE170.314(g)(1)/(2) – 14.01: Using the EHR function(s) identified by the Vendor and Vendor-supplied test data, the Vendor will demonstrate the method(s) by which the numerator (g1,g2) and denominator (g2 only) are populated for Measure A. Numerator population may include method(s) by which all available data is automatically sent for online access, or method(s) by which all data is available after complete provider action(s). All CMS required information (or an indication of none) must be made available online to the patient.

TE170.314(g)(1)/(2) – 14.02: Using the EHR function(s) identified by the Vendor and Vendor-supplied test data, the Tester causes the EHR to create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only) for Measure A

TE170.314(g)(1)/(2) – 14.03: Where the capability exists to release all available patient information online only after action(s) by the provider, the Vendor will supply test data to demonstrate the method(s) by which this is achieved. The Tester shall use Vendor-identified EHR function(s) and test patients to cause the EHR to create a report, including the numerator (g1,g2), and

denominator and resulting percentage (g2 only), that is reflective of the following scenarios:

- Provider action(s) to release patient information online *within* 4 business days of availability for EPs or 36 hours of discharge for EH/CAHs, for a patient seen or discharged during the reporting period
- Provider action(s) to release patient information online *after* 4 business days of availability for EPs or 36 hours of discharge for EH/CAHs, for a patient seen or discharged during the reporting period
- Lack of provider action(s) for a patient seen by the EP or discharged from the EH/CAH during the reporting period

TE170.314(g)(1)/(2) – 14.04: Using the Inspection Test Guide, the Tester shall verify that reports created in TE170.314(g)(1)/(2) – 14.02 and TE170.314(g)(1)/(2) – 14.03 (if applicable) are created correctly and without omission, based on the Vendor-supplied test data, and reflecting the method(s) used to populate the numerator (g1,g2) and denominator (g2 only). The Tester uses the description in the Inspection Test Guide to verify the expected results.

Measure B Required Test Steps

TE170.314(g)(1)/(2) – 14.05: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 14.03

TE170.314(g)(1)/(2) – 14.06: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - VDT – MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 14.03

TE170.314(g)(1)/(2) – 14.07: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - VDT – MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 14.08: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - VDT – MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 14.09: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - VDT – MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 14.10: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 14.11: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results.

Inspection Test Guide for (g)(2)

(g)(2) Measure A Inspection Test Steps

IN170.314(g)(2) – 14.01: The Tester shall verify that the Vendor described method(s) by which information is made available online for patient viewing occurs within 4 business days of information being available to the provider for ambulatory settings or within 36 hours of discharge for inpatient settings, and includes all of the following information:

Ambulatory Setting Only:

- Patient name
- Provider's name and office contact information
- 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
- Any known care team members including the primary care provider (PCP) of record

Inpatient Setting Only:

- 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

IN170.314(g)(2) – 14.02: Where the capability exists to release available patient information only upon provider action(s), the Tester shall verify that the Vendor described method(s) will support numerator population only when information is authorized for release by the provider within 4 business days for EPs or within 36 hours of discharge for EH/CAHs. The Tester shall verify that the numerator is not populated when provider action(s) to release information online are completed after 4 business days of availability for EPs or 36 hours of discharge for EH/CAHs. The Tester shall also verify that the numerator is not populated when the provider does not take any action(s) to release patient information online.

IN170.314(g)(2) – 14.03: 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(g)(2) – 14.04: Using the information provided in TE170.314(g)(1)/(2) – 14.02 to 14.04, the Tester shall verify that the report(s), including the numerator, denominator, and resulting percentage, are accurate and reflect the expected results for the Vendor-supplied test data

(g)(2) Measure B Inspection Test Steps

IN170.314(g)(2) – 14.05: The Tester shall verify that the numerator and denominator for the percentage-based meaningful use measure was recorded correctly and without omission for all Tester selected Test Cases

IN170.314(g)(2) – 14.06: 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(g)(2) – 14.07: Using the information provided in TD170.314(g)(1)/(g)(2) - VDT, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 14.08: 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(g)(1)/(g)(2) – VDT

<u>Inspection Test Guide for (g)(1)</u>

(g)(1) Measure A Inspection Test Steps

IN170.314(g)(1) – 14.01: The Tester shall verify that the Vendor described method(s) by which information is made available online for patient viewing occurs within 4 business days of information being available to the provider for ambulatory settings or within 36 hours of discharge for inpatient settings, and includes all of the following information:

Ambulatory Setting Only:

- Patient name
- Provider's name and office contact information
- 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
- Any known care team members including the primary care provider (PCP) of record

Inpatient Setting Only:

- 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

IN170.314(g)(1) – 14.02: Where the capability exists to release available patient information only upon provider action(s), the Tester shall verify that the Vendor described method(s) will support numerator population only when information is

	authorized for release by the provider within 4 business days for EPs or within 36 hours of discharge for EH/CAHs. The Tester shall verify that the numerator is not populated when provider action(s) to release information online are completed after 4 business days of availability for EPs or 36 hours of discharge for EH/CAHs. The Tester shall also verify that the numerator is not populated when the provider does not take any action(s) to release patient information online.
IN170.314(g)(1) – 14.03:	The Tester shall verify the method(s) demonstrated by the Vendor to record the numerator are complete and accurate
IN170.314(g)(1) – 14.04:	Using the information provided in TE170.314(g)(1)/(2) – 14.02 to 14.04, the Tester shall verify that the report(s), including the numerator, are accurate and reflect the expected results for the Vendor-supplied test data

(g)(1) Measure B Inspection Test Steps

IN170.314(g)(1) – 14.05:	The Tester shall verify that the numerator for the percentage-based meaningful use measure was recorded correctly and without omission for all Tester selected Test Cases
IN170.314(g)(1) – 14.06:	Using the information provided in TD170.314(g)(1)/(g)(2) - VDT, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission
IN170.314(g)(1) – 14.07:	The Tester shall verify that the numerator is accurate and reflects the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column in TD170.314(g)(1)/(g)(2) – VDT

Test Data Narrative

The test data for Measure A of the View, Download, Transmit objective is Vendor-supplied. The Vendor will designate the test patients and associated patient health information details to be used during the test to demonstrate

- the method(s) by which all available CMS required information (or indication of none) is made available online to the patient;
- the method(s) by which the numerator and denominator (g2 only) are populated;
- accurate EHR report generation including the numerator (g1,g2), and denominator and resulting percentage (g2 only) for Measure A; and
- if applicable, the method(s) by which information is withheld from release prior to action(s) by the provider.

The test data for Measure B of this objective is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the patient health information details.

The View, Download, Transmit objective is new for Stage 2 of meaningful use. ONC-supplied test data is only applicable to Measure B. The measure and associated Test Data Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for VDT Measure B represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when a patient's health information may be viewed, downloaded, or transmitted.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) – VDT: Measure B - MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates a prior VDT action has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - VDT - MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - VDT - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - VDT - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - VDT - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 15: Clinical Summary

Measure Description

Stage 1 Measure:

- Eligible Professional (EP): Clinical summaries provided to patients within 3 business days for more than 50 percent of all office visits during the EHR reporting period
- Eligible Hospital/Critical Access Hospital (EH/CAH): None

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (EH/CAH): None

Measure–specific Informative Test Description:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when a patient is provided with a clinical summary, or when a patient declines provision of a clinical summary, for Stages 1 and 2. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a patient has an office visit with the EP during the EHR reporting period.

Provision of a clinical summary to the patient within three business days of the office visit will populate the numerator in Stage 1 and provision within one business day of the office visit will populate the numerator in Stage 2, for office visits that occurred during the EHR reporting period. The Inspection Test Guide for 170.314(g)(1) does not evaluate if the patients who received clinical summaries and counted in the numerator were also seen during the reporting period, as the office visit measure element is captured 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 clinical summaries within the parameters for the Tester-selected test data set.

This test procedure evaluates if all required information in the clinical summary is present in order to populate the numerator. Additionally, this test procedure does not evaluate the capability of EHR technology to distinguish between patients and their authorized representatives. In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314 g1/g2 - Clinical Summary - MU 1/MU 2.

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: The number of office visits in the denominator for which the patient is provided a clinical summary within three business days.
- Denominator: Number of office visits conducted by the EP during the EHR reporting period

Inpatient: None

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: The number of office visits in the denominator where the patient or a patient-authorized representative is provided a clinical summary of their visit within 1 business day
- Denominator: Number of office visits conducted by the EP during the EHR reporting period

Inpatient: None

Stage 1 & 2 Measure Elements:

Ambulatory:

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

Inpatient: None

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 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(g)(1)/(2) – 15.03:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only), and 4) verify if the clinical summary was provided to a patient within 3 business days (Stage 1) and 1 business day (Stage 2)

Required Test Procedure

TE170.314(g)(1)/(2) – 15.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 15.01
TE170.314(g)(1)/(2) – 15.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 15.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 15.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 15.05:	Using the Inspection Test Guide, the Tester shall verify that the method(s) identified by the Vendor to provide Clinical Summaries to patients have been tested
TE170.314(g)(1)/(2) – 15.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 15.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results
TE170.314(g)(1)/(2) – 15.08:	The Vendor shall describe and demonstrate the method(s) by which all CMS required information is made available in the clinical summary in order to populate the numerator. Using the Inspection Test Guide, the Tester shall verify that the method(s) described allow numerator population only upon provision of a clinical summary containing all required information (or indication of none) within 3 business days of an office visit for Stage 1 and within 1 business day of an office visit for Stage 2.

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 15.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Clinical Summary, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 15.04: 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(g)(1)/(g)(2) - Clinical Summary

IN170.314(g)(2) – 15.05: The Tester shall verify that:

- Provision of a clinical summary will populate the numerator if provided to the patient within 3 business days (Stage 1) or 1 business day (Stage 2) of the office visit
- The following CMS required information (or indication of none) is made available in the clinical summary prior to numerator population:
  - Patient name
  - Provider's name and office contact information
  - Date and location of the visit
  - Reason for the office visit
  - Current problem list
  - Current medication list
  - Current medication allergy list
  - Procedures performed during the visit
  - Immunizations or medications administered during the visit
  - Vital signs taken during the visit (or other recent vital signs)
  - Laboratory test results
  - List of diagnostic tests pending
  - Clinical instructions
  - Future appointments
  - Referrals to other providers
  - Future scheduled tests
  - Demographic information maintained within certified electronic health record technology (sex, race, ethnicity, date of birth, preferred language)
  - Smoking status
  - Care plan field(s), including goals and instructions.
  - Recommended patient decision aids (if applicable to the visit)

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 15.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Clinical Summary, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 15.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Clinical Summary

IN170.314(g)(1) – 15.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 15.04, recording of the numerator did not occur

IN170.314(g)(1) – 15.04: The Tester shall verify that:

- Provision of a clinical summary will populate the numerator if provided to the patient within 3 business days (Stage 1) or 1 business day (Stage 2) of the office visit
- The following CMS required information (or indication of none) is made available in the clinical summary prior to numerator population:
  - Patient name
  - Provider's name and office contact information
  - Date and location of the visit
  - Reason for the office visit
  - Current problem list
  - Current medication list
  - Current medication allergy list
  - Procedures performed during the visit
  - Immunizations or medications administered during the visit
  - Vital signs taken during the visit (or other recent vital signs)
  - Laboratory test results
  - List of diagnostic tests pending
  - Clinical instructions
  - Future appointments
  - Referrals to other providers
  - Future scheduled tests
  - Demographic information maintained within certified electronic health record technology (sex, race, ethnicity, date of birth, preferred language)
  - Smoking status
  - Care plan field(s), including goals and instructions.
  - Recommended patient decision aids (if applicable to the visit)

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Clinical Summary entry details.

The Test Data Scenarios apply to both Stage 1 and Stage 2 measures. The measure and associated Test Data Scenarios are only applicable for use in the EP setting.

The Test Data Scenarios for Clinical Summaries represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Clinical Summaries may be provided.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1, g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the use of "-" indicates there is no instance where the numerator can be populated without populating the denominator.

- 170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 2: Test Data Scenario 2 - The use of "-" in indicates there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Clinical Summary - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1, g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 16: Patient Education

Measure Description

Stage 1 Measure:

- Eligible Professional (EP): More than 10 percent of all unique patients seen by the EP during the EHR reporting period are provided patient specific education resources
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when a patient is provided with patient-specific education resources identified by the EHR technology. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP (Stage 1), has an office visit with the EP (Stage 2), or is admitted to the EH or CAH (Stages 1 and 2) during the EHR reporting period.

Provision of patient education identified by EHR technology will populate the numerator if provided by the EP/ authorized provider before, during, or after the reporting period; however, population of the numerator will only occur if the patient to whom education materials were provided is seen by the EP in the ambulatory setting for Stage 1, seen by and has at least one office visit with the EP in the ambulatory setting for Stage 2, or who is admitted to the inpatient or emergency department in the inpatient setting for Stages 1 & 2 during the EHR reporting period.

This test procedure does not test the ability of EHR technology to identify patient education materials through use of the HL7 Infobutton standard as that capability is assessed in §170.314(a)(15)—Patient-specific education resources. In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Patient Education - MU 1/MU 2.

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 Measure English Statements:

Ambulatory:

- Numerator: Number of patients in the denominator who are provided patient education specific resources
- Denominator: Number of unique patients seen by the EP during the EHR reporting period

Inpatient:

- Numerator: Number of patients in the denominator who are provided patient education specific resources
- Denominator: Number of unique patients admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period

Stage 2 Measure English Statements:

Ambulatory:

- Numerator: The number of patients in the denominator who were provided patient-specific education resources identified by the EHR technology
- Denominator: Number of unique patients with office visits seen by the EP during the EHR reporting period

Inpatient:

- Numerator: Number of patients in the denominator who are subsequently provided patient-specific education resources identified by CEHRT
- Denominator: Number of unique patients admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period

Stage 1 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

Stage 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 with office visit seen by the EP

Stage 1 and 2 Measure Elements:

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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 16.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 16.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report
TE170.314(g)(1)/(2) – 16.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(1)/(2) – 16.01
TE170.314(g)(1)/(2) – 16.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 16.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 16.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 16.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 16.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases
IN170.314(g)(2) – 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(g)(2) – 16.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Patient Education, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Patient Education

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 16.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Patient Education, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314(g)(1) – 16.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Patient Education
IN170.314(g)(1) – 16.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 16.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Patient Education content.

The test data is separated into two sets titled, "Stage 1 (EP); Stage 1 & 2 (EH/CAH)" and "Stage 2 EP Only." The first set of numerator and denominator values are based on the provision of patient education materials and on whether a patient was seen or admitted within or outside the reporting period. The second set of numerator and denominator values that only applies to the Stage 2 ambulatory setting is dependent on provision of patient education materials and whether the instance in which the patient was seen by the EP during the reporting period was designated as an office visit. The Test Data Scenarios and Test Cases are to be used with both test data sets.

The Test Data Scenarios for Patient Education represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Patient Education may be provided.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In subsequent sections of the test data, the term “previously recorded” indicates a prior Patient Education provision has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 2: Test Data Scenario 1 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Patient Education - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 17: Medication Reconciliation

Measure Description

Stage 1 and 2 Measures:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator upon confirmation that medication reconciliation has been performed; examples could include a check-box or a single reconciled list of medications. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when the EP or EH or CAH receives a transition of care during the EHR reporting period. Medication reconciliation will populate the numerator if it is performed before, during or after the reporting period for a transition of care that is received during the EHR reporting period.

For EPs in Stage 1 and Stage 2 of meaningful use, CMS defines transition of care as the movement of a patient from one clinical setting (inpatient, outpatient, physician office, home health, rehab, long-term care facility, etc.) to another, or from one EP to another.

For EHs or CAHs in Stage 1 and Stage 2 of meaningful use, CMS 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.

For Stage 1 and Stage 2, CMS specifies that the transition of care denominator of this measure should reflect the following:

- Eligible Hospital/ Critical Access Hospital (EH/CAH): When the hospital is the recipient of the transition or referral, all admissions to the inpatient and emergency departments
- Eligible Professional (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. Methods by which a received summary of care record increments the

denominator could include, but are not limited to, user indication of a paper-based summary of care or an electronic summary formatted according to the Consolidated CDA standard.

In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Medication Reconciliation - MU 1/MU 2.

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 & 2 Measure English Statements:

Ambulatory:

- Numerator: The number of transitions of care in the denominator where medication reconciliation was performed
- Denominator: Number of transitions of care (defined as 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) during the EHR reporting period for which the EP was the receiving party of the transition

Inpatient:

- Numerator: The number of transitions of care in the denominator where medication reconciliation was performed
- Denominator: Number of transitions of care (defined as all admissions to the inpatient and emergency departments) during the EHR reporting period for which the EP or eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) was the receiving party of the transition

Stage 1 & 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
    - First encounters with new patients
    - Designation of an encounter with existing patients where a hard copy or scanned copy of a summary of care document is provided
    - Encounter with existing patients where an electronic C-CDA summary of care document is provided

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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Medication Reconciliation - MU1/MU2 - 1: Test Data Scenario 1

VE170.314(g)(1)/(2) – 17.02: Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 17.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 17.01

TE170.314(g)(1)/(2) – 17.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Reconciliation - MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

- The Vendor shall identify at least one Test Case within TD170.314(g)(1)/(g)(2) - Medication Reconciliation - MU1/MU2 - 3: Test Data Scenario 3 for which the transition of care shall be triggered by receipt of a C-CDA Referral Summary/Summary of Care document

TE170.314(g)(1)/(2) – 17.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Reconciliation - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 17.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Medication Reconciliation - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 17.05: Using Vendor identified EHR functions, the Tester causes the EHR to create the baseline report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 17.06: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester

uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 17.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Medication Reconciliation, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Medication Reconciliation

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 17.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Medication Reconciliation, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 17.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Medication Reconciliation

IN170.314(g)(1) – 17.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 17.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, 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 Scenarios apply to both the Stage 1 and Stage 2 measures; however, the test data are divided into two categories to reflect the differences in measure requirements for EPs and EH/CAHs.

The Test Data Scenarios for Medication Reconciliation represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in subsequent test data patient scenarios to reflect an additional encounter or action when Medication Reconciliation may occur.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Medication Reconciliation - MU1/MU2 -1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the use of "-" indicates irrelevance or inapplicability of a measure element for the indicate setting of care or indicates that there is no instance where the numerator can be populated without populating the denominator.

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

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 18: Summary of Care

Measure Description

Stage 1 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (EP)/Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when a summary of care record is provided, and when a summary of care record is electronically transmitted to a recipient. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when the EP or EH/CAH transitions or refers their patient to another setting of care or provider of care during the EHR reporting period.

What is hereafter referred to as “Measure A”, “Measure B”, and “Measure C” for the Stage 2 Summary of Care objective in this test procedure, corresponds to the CMS designated “Measure 1”, “Measure 2”, and “Measure 3”, respectively.

Provision of a summary of care record before, during, or after the EHR reporting period will populate the Measure A numerator for transitions of care that occur during the reporting period. Similarly, electronic transmission of a summary of care record before, during, or after the EHR reporting period will populate the Measure B numerator for transitions of care that occur during the reporting period.

This test procedure also assesses that population of the numerator will occur upon transmitting Summary of Care documents to EHR technology 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 Measure C of the Stage 2 objective.

For EPs in Stage 1 and Stage 2 of meaningful use, CMS defines transition of care as the movement of a patient from one clinical setting (inpatient, outpatient, physician office, home health, rehab, long-term care facility, etc. to another, or from one EP to another.

For EHs/CAHs in Stage 1 and Stage 2 of meaningful use, CMS 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 1 and Stage 2 of meaningful use specifies that the transition of care denominator of this measure should reflect the following:

- Eligible Hospital/Critical Access Hospital (EH/CAH): 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
- Eligible Professional (EP): When the EP is the initiator of the transition or referral, transitions and referrals ordered by the EP.

Either the patient or the referring/transitioning provider or institution can provide the summary of care record to the receiving provider or institution. Additionally, as defined in the CMS Stage 2 final rule, a referral is a case where one provider refers a patient to another, but the referring provider maintains their care of the patient as well.

The Stage 1 and Stage 2 English statements, measure elements, and test data presented for transitions of care are designed to be inclusive of these definitions.

This test procedure evaluates that all CMS required information, specifically, current problems, current medications, and current medication allergies, or an indication of none, are contained in the summary of

care record prior to numerator population. If a summary of care record does not contain current problems, current medications, and current medication allergies, or an indication of none, the numerator should not be populated. In DTR170.314(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Summary of Care - MU 1/MU 2.

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: The number of transitions of care and referrals in the denominator where a summary of care record was provided
- 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: The number of transitions of care and referrals in the denominator where a summary of care record was provided
- Denominator: Number of transitions of care and referrals during the EHR reporting period for which the EH/CAH's inpatient or emergency department (POS 21 or 23) was the transferring or referring provider

Stage 2 Measure English Statements:

Ambulatory/Inpatient:

- Measure A:
  Numerator: The number of transitions of care and referrals in the denominator where a summary of care record was provided
  Denominator: Number of transitions of care and referrals during the EHR reporting period for which the EP or eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) was the transferring or referring provider.

- Measure B:
  Numerator:
  - The number of transitions of care and referrals in the denominator where a summary of care record 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: Number of transitions of care and referrals during the EHR reporting period for which the EP or eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) was the transferring or referring provider.

Stage 1 Measure Elements:

Ambulatory:

- Numerator:
  - Summary of care record provided
- Denominator:
  - Reporting period start and end date
  - Transition of care ordered by the EP
  - Referral ordered by the EP

Inpatient:

- Numerator:
  - Summary of care record provided
- Denominator:
  - Reporting period start and end date
  - Discharge from the EH/CAH inpatient department (POS 21)
  - Follow up care ordered for discharge after admission to the emergency department (POS 23)

Stage 2 Measure Elements:

Ambulatory Measure A:

- Numerator:
  - Summary of care record provided
- Denominator:
  - Reporting period start and end date
  - Transition of care ordered by the EP
  - Referral ordered by the EP

Inpatient Measure A:

- Numerator:
  - Summary of care record provided
- Denominator:
  - Reporting period start and end date
  - Discharge from the EH/CAH inpatient department (POS 21)
  - Follow up care ordered for discharge after admission to the emergency department (POS 23)

Ambulatory Measure B:

- Numerator:
  - Summary of care record provided
  - Summary of care record electronically transmitted
- Denominator:
  - Reporting period start and end date
  - Transition of care ordered by the EP
  - Referral ordered by the EP

Inpatient Measure B:

- Numerator:
  - Summary of care record provided
  - Summary of care record electronically transmitted
- Denominator:
  - Reporting period start and end date
  - Discharge from the EH/CAH inpatient department (POS 21)
  - Follow up care ordered for discharge after admission to the emergency department (POS 23)

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 18.02:	Using Vendor-supplied test data, the Vendor shall populate patient clinical information for test patients in VE170.314(g)(1)/(2) – 18.01 for Referral Summary/Summary of Care document(s)
VE170.314(g)(1)/(2) – 18.03:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 18.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 18.01
TE170.314(g)(1)/(2) – 18.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3 to cause the

	EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 18.03:	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 Test Cases within TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3. • Transmit summary of care records available for patients in Test Cases within TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3
TE170.314(g)(1)/(2) – 18.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 18.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 18.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create the first delta report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 18.07:	Using the Inspection Test Guide, the Tester shall verify the baseline and the first delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results
TE170.314(g)(1)/(2) – 18.08:	Using Vendor identified EHR functions, the Tester causes the EHR to create an additional encounter with a referral/transition of care for at least one of the Test Cases from TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3
TE170.314(g)(1)/(2) – 18.09:	Using Vendor identified EHR functions, the Tester causes the EHR to create a second delta report that includes the numerator (g1,g2) and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 18.10:	Using the Inspection Test Guide, the Tester shall verify a second delta report that includes the numerator and denominator and resulting percentage is created correctly and without omission
TE170.314(g)(1)/(2) – 18.11:	The Vendor shall describe and demonstrate the method(s) by which, the following CMS required fields in the summary of care record, at a minimum, are populated (or contain an indication of none): Ambulatory & Inpatient Settings: o Current problem list

- Current medication list
- Current medication allergy list

TE170.314(g)(1)/(2) – 18.12: Using the Inspection Test Guide, the Tester shall verify that the described method(s) allow numerator population only upon provision of a summary of care record containing information (or indication of none) in the three fields described in TE170.314(g)(1)/(2) – 18.11

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 18.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Summary of Care, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage, are created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Summary of Care

IN170.314(g)(2)—18.05: The Tester shall verify that for any additional encounter(s) with a referral/transition of care created in TE170.314(g)(1)/(2) – 18.08, the numerator and denominator increment for every additional transition of care/referral that is created

IN170.314(g)(2) – 18.06: 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

IN170.314(g)(2) – 18.07: The Tester shall verify that at a minimum, the following fields (listed below) in the summary of care record contain all of the information (or an indication of none) prior to numerator population. If a summary of care record does not contain all of the information (or an indication of none), the numerator should not be populated.

Ambulatory & Inpatient Settings:

- Current problem list
- Current medication list
- Current medication allergy list

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 18.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Summary of Care, the Tester shall verify that the baseline and delta reports, including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 18.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Summary of Care

IN170.314(g)(1) – 18.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 18.05, recording of the numerator did not occur

IN170.314(g)(1) – 18.04: 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

IN170.314(g)(1) – 18.05: The Tester shall verify that at a minimum, the following fields (listed below) in the summary of care record contain all of the information (or an indication of none) prior to numerator population. If a summary of care record does not contain all of the information (or an indication of none), the numerator should not be populated:

Ambulatory & Inpatient Settings:

- Current problem list
- Current medication list
- Current medication allergy list

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Summary of Care content.

The Test Data Scenarios and associated Test cases are for use in both Stage 1 and 2. The numerator, denominator, and numerator recording values are separated into two sets to accommodate the difference in measure requirements for Measure A and Measure B. Measure A is required for both Stages 1 and 2 while Measure B is only required for Stage 2. The column indicating "Summary of Care Record Electronically Transmitted" will only affect the values for Measure B in Stage 2. The measure and associated Test Data Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for Summary of Care represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when a Summary of Care record may be provided.
Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and

record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the use of "-" indicates irrelevance or inapplicability of a data element for the indicate setting of care or indicates that there is no instance where the numerator can be populated without populating the denominator.

This test procedure evaluates that patients who have more than one transition of care or referral within the reporting period will cause the denominator to increment for every transition of care or referral that is created (g2 only).

- 170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case; the use of "-" in this section indicates that there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 19: Secure Electronic Messaging

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (EH/CAH): None

Measure–specific Informative Test Description:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to document that an electronic message that is sent by a unique patient (or patient authorized representative) and received by the EP using the electronic messaging function of EHR technology during the reporting period will populate the numerator. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP during the EHR reporting period. A secure electronic message will populate the numerator if the message is received by the EP during the reporting period; however, population of the numerator will only occur if the message is sent by a unique patient who is seen during the EHR reporting period. The numerator is populated once per unique patient seen during the reporting period, who sends a secure message that is received by the EP; the numerator is not incremented per secure message sent by a unique patient and received by the EP.

The secure electronic messaging function of the EHR technology is not evaluated in this test procedure, as it is evaluated in §170.314(e)(3)—Ambulatory setting only—secure messaging. Additionally, this test procedure does not evaluate the capability of EHR technology to distinguish between patients and their authorized representatives.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator and denominator, and the Tester will select a range of Test Cases for the designated method(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 messages within the parameters for the Tester-selected Test Cases.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Secure Messaging - MU 2.

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: The 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 during the EHR reporting period
- Denominator: Number of 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(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 19.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only), and 4) verify a secure message sent by a patient or authorized representative is received by the EP

Required Test Procedure

TE170.314(g)(1)/(2) – 19.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 19.01
TE170.314(g)(1)/(2) – 19.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(2) – 19.01
TE170.314(g)(1)/(2) – 19.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 3: Test Data Scenario 3 to cause the EHR

	to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 19.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 19.05:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 19.06:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 19.07:	Using the Inspection Test Guide, the Tester shall verify that the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases
IN170.314(g)(2) – 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(g)(2) – 19.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Secure Messaging, the Tester shall verify that the baseline and delta reports, including the numerator, denominator, and resulting percentage are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Secure Messaging

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 19.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Secure Messaging, the Tester shall verify that the baseline and delta reports including the numerator are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations

IN170.314(g)(1) – 19.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Secure Messaging
IN170.314(g)(1) – 19.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 19.04, recording of the numerator did not occur

Test Data Narrative

The test data for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Secure Electronic Message content to be securely sent and received through EHR technology.

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

The Test Data Scenarios for Secure Electronic Messaging represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in subsequent test data to reflect an additional encounter or action when receiving a Secure Electronic Message may occur.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates prior receipt of a Secure Electronic Message has already triggered the numerator to be recorded, regardless of denominator limitations. The Test Data evaluate the accuracy of populating the numerator once for a given unique patient who sends more than one message to an EP.

- 170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Secure Messaging - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 20: Imaging

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of the EHR to populate the numerator when an image result is accessible through EHR technology. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a test whose result is one or more images is ordered by the EP or authorized provider of the EH/CAH during the EHR reporting period. For all tests whose result is one or more images ordered during the reporting period, population of the numerator will occur if the image results are made accessible through EHR technology before, during, or after the reporting period.

The term “accessible” is meant to convey that the image result is incorporated into the EHR or indicated as available for a patient in another technology through a link to the image. The test procedure does not evaluate if the accompanying information is included with the image. In DTR170.314(g)(2) – 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 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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Imaging - MU 2.

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 results in the denominator that are accessible through CEHRT
- Denominator: Number of tests whose result is one or more images ordered by the EP during the EHR reporting period

Inpatient:

- Numerator: The number of results in the denominator that are accessible through CEHRT
- Denominator: Number of tests whose result is one or more images ordered by an authorized provider on behalf of the eligible hospital or CAH for patients admitted to its inpatient or emergency department (POS 21 and 23) during the EHR reporting period

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory:

- Numerator:
  - Image accessible
- Denominator:
  - Reporting period start and end date
  - Ordered test by EP with image result

Inpatient:

- Numerator:
  - Image accessible
- Denominator:
  - Reporting period start and end date
  - Ordered test by EP with image result

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Imaging - MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 20.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only), and 4) verify an image is accessible

Required Test Procedure

TE170.314(g)(1)/(2) – 20.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 20.01
TE170.314(g)(1)/(2) – 20.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Imaging - MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 20.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Imaging - MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 20.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Imaging – MU2 - 5: Test Data Scenario 5 that do not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 20.05:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 20.06:	Using the Inspection Test Guide, the Tester shall verify that the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases
IN170.314(g)(2) – 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(g)(2) – 20.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Imaging, the Tester shall verify that the baseline and delta reports including the numerator, denominator, and resulting percentage is created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Imaging

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 20.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Imaging, the Tester shall verify that the baseline and delta reports including the numerator are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations
IN170.314(g)(1) – 20.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314 (g)(1)/(g)(2) – Imaging

IN170.314(g)(1) – 20.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 20.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Imaging orders and results details.

The Test Data Scenarios only apply to the Stage 2 measure, as the Imaging objective is new for Stage 2 of meaningful use. The measure and associated test data are the same in both the EP and EH/CAH settings.

The Test Data Scenarios for Imaging represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when test results may include images.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Imaging - MU2 - 1: Test Case Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the use of "-" in the Test Cases indicates there is no instance where the numerator can be populated without populating the denominator.

- 170.314(g)(1)/(g)(2) - Imaging - MU2 - 2: Test Data Scenario 2 - The use of "-" indicates there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - Imaging - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Imaging - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Imaging - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 21: Family Health History

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator if family health history information has been recorded as structured data for a at least one first-degree relative. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a unique patient is seen by the EP or admitted to the EH or CAH during the EHR reporting period.

The act of recording either parent, sibling, or child health history as structured data will populate the numerator if it is recorded by the EP or authorized provider of the EH/CAH before, during or after the reporting period as long as the patient was seen/admitted during the EHR reporting period. Multiple entries of family health history data, while encouraged, will not populate the numerator more than once.

Per the CMS final rule, this test procedure will require EHR technology to populate the numerator for this measure if a structured data entry of family health history indicates that the information is unknown (e.g., parent health history unknown).

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Family Health History - MU 2.

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:
  - The 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:
  - Structured data entry for parent health history
  - Structured data entry for sibling health history
  - Structured data entry for child health history
  - Structured data entry for parent health history unknown
  - Structured data entry for sibling health history unknown
  - Structured data entry for child health history unknown
- Denominator:
  - Reporting period start and end date
  - Unique patient seen by the EP

Inpatient:

- Numerator:
  - Structured data entry for parent health history
  - Structured data entry for sibling health history
  - Structured data entry for child health history
  - Structured data entry for parent health history unknown
  - Structured data entry for sibling health history unknown
  - Structured data entry for child health history unknown
- Denominator:
  - Reporting period start and end date
  - Unique patient admitted to POS 21 or 23

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Family Health History - MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 21.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 21.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 21.01

TE170.314(g)(1)/(2) – 21.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Family Health History – MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the numerator (g1,g2) of patients entered in VE170.314(g)(1)/(2) – 21.01

TE170.314(g)(1)/(2) – 21.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Family Health History – MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 21.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Family Health History – MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 21.05: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Family Health History – MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 21.06: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 21.07: Using the Inspection Test Guide, the Tester shall verify that the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 21.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Family Health History, the Tester shall verify that the baseline and delta reports including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Family Health History

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 21.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Family Health History, the Tester shall verify that the baseline and delta reports including the numerator are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 21.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Family Health History

IN170.314(g)(1) – 21.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 21.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Family Health History entry details.

The Test Data Scenarios only apply 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 Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for Family Health History represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Family Health History entries may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Family Health History - MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios of the test data. In the remaining Test Data Scenarios, the term "previously recorded" indicates a prior Family Health History entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - Family Health History - MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case

- 170.314(g)(1)/(g)(2) - Family Health History - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Family Health History - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Family Health History - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 22: Electronic Notes

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- Eligible Professional (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
- Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to document if an electronic note has been created, edited, or signed by the EP to populate the numerator once. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a patient has at least one office visit with the EP or is admitted to the EH or CAH during the EHR reporting period.

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(g)(2) – 2, this test procedure evaluates that the EHR technology can attribute actions to the correct provider(s).

An electronic note will populate the numerator if created, edited or signed by the EP or authorized provider of the EH/CAH before, during or after the reporting period as long as the patient for whom the note is created, was seen during the EHR reporting period.

Although the measure description states that an electronic progress note must be "created, edited, and signed by an EP," the majority of the test data addresses the act of creating a note to trigger population of the numerator because an electronic note cannot be edited or signed without first being created. The measure does not prohibit including electronic notes created outside of the reporting period, so the actions of only editing or only signing a note would never allow the numerator to be newly populated. Part of this test procedure will assess that creating, editing, and signing an electronic note will only cause the numerator to be populated once.

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Electronic Notes - MU 2.

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: The number of unique patients in the denominator who have at least one electronic progress note from an eligible professional recorded as text-searchable data
- Denominator: Number of unique patients with at least one office visit during the EHR reporting period for EPs during the EHR reporting period

Inpatient:

- Numerator: The number of unique patients in the denominator who have at least one electronic progress note from an authorized provider of the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) recorded as text-searchable data
- Denominator: Number of unique patients admitted to an eligible hospital 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:
  - 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

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Electronic Notes - MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 22.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 22.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 22.01
TE170.314(g)(1)/(2) – 22.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Electronic Notes – MU2 - 2: Test Data Scenario 2 to modify the numerator (g1,g2) of patients entered in VE170.314(g)(1)/(2) – 22.01

TE170.314(g)(1)/(2) – 22.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Electronic Notes – MU2 - 3: Test Data Scenario 3 to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 22.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Electronic Notes – MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 22.05:	The Tester selects a minimum if two Test Cases from TD170.314(g)(1)/(g)(2) - Electronic Notes – MU2 - 5: Test Data Scenario 5, including one Test Case in which a note is created and one Test Case in which a note is edited and/or signed, that do not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 22.06:	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 (g1,g2) or denominator (g2 only)
TE170.314(g)(1)/(2) – 22.07:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 22.08:	Using the Inspection Test Guide, the Tester shall verify that the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases
IN170.314(g)(2) – 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(g)(2) – 22.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Electronic Notes, and as indicated in TE170.314(g)(1)/(2) – 22.07, the Tester shall verify that the baseline and delta reports including the numerator, denominator, and resulting percentage are created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Electronic Notes

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 22.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Electronic Notes, the Tester shall verify that the baseline and delta reports including the numerator are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations
IN170.314(g)(1) – 22.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Electronic Notes
IN170.314(g)(1) – 22.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 22.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Electronic Notes content.

The Test Data Scenarios only apply to the Stage 2 measure, as the Electronic Notes objective is new for Stage 2 of meaningful use. The measure and associated Test Data Scenarios are the same in both EP and EH/CAH settings.

The Test Data Scenarios for Electronic Notes represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Electronic Notes may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Electronic Notes - MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term "previously recorded" indicates a prior Electronic Notes entry has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - Electronic Notes - MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Electronic Notes - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Electronic Notes - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Electronic Notes - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 23: Advance Directives

Measure Description

Stage 1 Measure:

- Eligible Professional (EP): None
- Eligible Hospital/Critical Access Hospital (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:

- Eligible Professional (EP): None
- Eligible Hospital/Critical Access Hospital (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 procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to document that recording an advance directive status populates the numerator. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a patient is 65 years old or older and is admitted to the eligible hospital's or critical access hospital's inpatient department (POS 21during the EHR reporting period. Recording an advance directive status as structured data will populate the numerator if it is recorded by the EP or authorized provider of the EH/CAH before, during or after the reporting period for a patient 65 or older who was admitted to the inpatient department (POS 21) during the EHR reporting period.

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Advance Directives - MU 1/MU 2.

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: The number of patients in the denominator who have an indication of an advance directive status entered using structured data
- Denominator: Number of 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 65 years of age or 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 of age or older not admitted to POS 21

Normative Test Procedure

<u>Required Vendor Information</u>

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Advance Directives – MU1/MU2 - 1: Test Data Scenario 1

VE170.314(g)(1)/(2) – 23.02: Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 23.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 23.01

TE170.314(g)(1)/(2) – 23.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Advance Directives – MU1/MU2 - 2: Test Data Scenario 2 to modify the numerator (g1,g2) of patients entered in VE170.314(g)(1)/(2) – 23.01

TE170.314(g)(1)/(2) – 23.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Advance Directives – MU1/MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 23.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Advance Directives – MU1/MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 23.05: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Advance Directives – MU1/MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 23.06: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator(g1,g2) , and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 23.07: Using the Inspection Test Guide, the Tester shall verify that the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 23.03: Using the information provided in TD170.314(g)(1)/(g)(2) - Advance Directives, the Tester shall verify that the baseline and delta reports including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Advance Directives

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 23.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - Advance Directives, the Tester shall verify that the baseline and delta reports are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 23.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – Advance Directives

IN170.314(g)(1) – 23.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 23.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Advance Directive status.

The Test Data Scenarios apply to both Stage 1 and Stage 2 measures. The measure and associated Test Data Scenarios are only applicable for use in the EH/CAH setting.

The Test Data Scenarios for Advance Directives represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in subsequent test data to reflect an additional encounter or action when Advance Directive status may be recorded.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Advance Directives - MU1/MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the term “previously recorded” indicates a prior recording of Advance Directive status has already triggered the numerator to be recorded, regardless of denominator limitations.

- 170.314(g)(1)/(g)(2) - Advance Directives - MU1/MU2 - 2: Test Data Scenario 2 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Advance Directives - MU1/MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Advance Directives - MU1/MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Advance Directives - MU1/MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 24: Structured Lab EH to EP

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- Eligible Professional (EP): None
- Eligible Hospital/Critical Access Hospital (EH/CAH): Hospital labs send structured electronic clinical lab results to the ordering provider for more than 20 percent of electronic lab orders received.
- Eligible Hospital/Critical Access Hospital (EH/CAH): Hospital labs send structured electronic clinical lab results to the ordering provider for more than 20 percent of lab orders received (Alternate Measure)

Measure–specific Informative Test Description:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when a hospital lab sends structured electronic clinical lab results to the ordering provider. The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a) lab orders and b) electronic lab orders are received from ambulatory providers during the EHR reporting period. Structured clinical lab results sent to the ordering provider will populate the numerator if sent during the reporting period.

The test procedure for this measure assesses that lab orders received by the hospital lab from ambulatory providers in an ambulatory setting will populate the denominator, and that lab orders received from providers in the inpatient and emergency departments are excluded from the denominator. Additionally, the test assesses that lab results sent to ordering providers will populate the numerator if the result is sent back to an ambulatory provider in an ambulatory setting.

Per the CMS interim final rule released December 7, 2012, *Health Information Technology: Revisions to the 2014 Edition Electronic Health Record Certification Criteria; and Medicare and Medicaid Programs; Revisions to the Electronic Health Record Incentive Program*, hospitals may elect to meet either the existing measure or the alternate measure to satisfy the objective. The denominator of the original measure is inclusive of all electronic lab orders received from ambulatory providers while the alternate measure allows hospitals to include all lab orders received from ambulatory providers in the denominator. EHR technology must have the capability to support measure calculation using both the existing and alternate denominators, regardless of what an Eligible Hospital/Critical Access Hospital may elect to use as the denominator for this measure (ONC FAQ 11-12-032-2).

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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Structured Lab EH to EP - MU 2.

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."

Per Medicare and Medicaid Programs; Health Information Technology: Revisions to the 2014 Edition Electronic Health Record Certification Criteria; and Medicare and Medicaid Programs; Revisions to the Electronic Health Record Incentive Program:

- "This interim final rule with comment period also revises the Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs by adding an alternative measure for the Stage 2 meaningful use (MU) objective for hospitals to provide structured electronic laboratory results to ambulatory providers…"
- "In our response to comments in the Stage 2 final rule (77 FR 54042), we recognized that…in cases where hospitals send a large number of lab results electronically in response to orders they receive through nonelectronic means (for example, by phone or on paper), the measure might not capture a hospital's performance of the objective. In addition, a hospital that receives a very small

percentage of its total lab orders electronically could have difficulty meeting the measure threshold regardless of the number of lab results it sends electronically to ordering providers."

- "While we continue to believe that most hospitals will find it advantageous to use the existing measure, for the reasons discussed previously, we are adding an alternative measure for this objective. Hospitals can meet either the existing measure or the alternative measure to satisfy the objective."

Stage 1 Measure English Statements:

None

Stage 2 Measure English Statements:

Ambulatory: None

Inpatient:

- Numerator: The number of lab orders in the denominator for which structured electronic clinical lab results were sent to the ordering provider
- Denominator: The number of electronic lab orders received from ambulatory providers
- Alternate Denominator: The number of lab orders received from ambulatory providers

Stage 1 Measure Elements:

None

Stage 2 Measure Elements:

Ambulatory: None

Inpatient:

- Numerator:
  - Structured electronic clinical lab result sent by hospital lab to ordering provider
- Denominator:
  - Reporting period start and end date
  - Electronic order(s) received by hospital lab from ambulatory providers
- Alternate Denominator:
  - Reporting period start and end date
  - Lab order(s) received by hospital lab from ambulatory providers
- Denominator and Alternate Denominator Exclusions:
  - Lab order(s) received by hospital lab from the inpatient setting
  - Lab order(s) received by hospital lab from the emergency department setting

Normative Test Procedure

Required Vendor Information

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - Structured Lab EH to EP - MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 24.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the original measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the original measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only) for the original measure
VE170.314(g)(2) – 24.03:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the alternative meaningful use measure, 2) electronically record the numerator (g1,g2) and denominator (g2 only) for the alternative measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only) for the alternative measure

Required Test Procedure

TE170.314(g)(1)/(2) – 24.01:	Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 24.01
TE170.314(g)(1)/(2) – 24.02:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Structured Lab EH to EP – MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients
TE170.314(g)(1)/(2) – 24.03:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Structured Lab EH to EP – MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients
TE170.314(g)(1)/(2) – 24.04:	The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Structured Lab EH to EP – MU2 - 5: Test Data Scenario 5 that does not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients
TE170.314(g)(1)/(2) – 24.05:	Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)
TE170.314(g)(1)/(2) – 24.06:	Using the Inspection Test Guide, the Tester shall verify that the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases; this includes verifying that all lab orders received, whether electronically or by other means, are included in the denominator
IN170.314(g)(2) – 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(g)(2) – 24.03:	Using the information provided in TD170.314(g)(1)/(g)(2) - Structured Lab EH to EP, the Tester shall verify that the baseline and delta reports including the numerator, denominator, and resulting percentage is created correctly and without omission
IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - Structured Lab EH to EP

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 24.01:	Using the information provided in TD170.314 (g)(1)/(g)(2) - Structured Lab EH to EP, the Tester shall verify that the baseline and delta reports including the numerator are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure’s denominator limitations
IN170.314(g)(1) – 24.02:	The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the “Numerator Recorded” column of TD170.314 (g)(1)/(g)(2) – Structured Lab EH to EP
IN170.314(g)(1) – 24.03:	The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 24.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the Structured Lab EH to EP order details.

The Test Data Scenarios only apply to the Stage 2 measure, as the Structured Lab EH to EP objective is new for Stage 2 of meaningful use. The measure and associated Test Data Scenarios are only

applicable in the EH/CAH setting. The Test Data Scenarios reflect the requirements for the original measure denominator and alternate measure denominator.

The Test Data Scenarios for Structured Lab EH to EP represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when Structured Lab EH to EP transmittals may occur.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - Structured Lab EH to EP - MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the "-" indicates there is no instance where the numerator can be populated without populating the denominator.

- 170.314(g)(1)/(g)(2) - Structured Lab EH to EP - MU2 - 2: Test Data Scenario 2 - The use of "-" in indicates there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - Structured Lab EH to EP - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Structured Lab EH to EP - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - Structured Lab EH to EP - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

DTR170.314(g)(1)/(2) – 25: Electronic Medication Administration Record (eMAR)

Measure Description

Stage 1 Measure: None

Stage 2 Measure:

- Eligible Professional (EP): None
- Eligible Hospital/Critical Access Hospital (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:

The test procedures for §170.314(g)(1) and §170.314(g)(2) evaluate the capability of EHR technology to populate the numerator when all doses of a medication order are tracked using electronic medication administration record (eMAR). The test procedure for §170.314(g)(2) evaluates the capability of the EHR to populate the denominator when a medication order is created by an authorized provider of the EH/CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period. A medication order for which all doses are tracked using eMAR will populate the numerator for an order that is placed during the EHR reporting period.

The test procedure does not evaluate the capability 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 measure 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.

The Vendor will identify at least one method by which the EHR technology is capable of populating the numerator (g1, g2) and denominator (g2 only), and the Tester will select a range of Test Cases for the selected method(s). The Tester will select a minimum of one Test Case from each of the Test Data Scenarios in TD170.314g1/g2 - Electronic Medication Administration Record (eMAR) - MU 2.

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: The number of orders in the denominator for which all doses are tracked using eMAR
- Denominator: 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

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 in POS 21 or 23

Normative Test Procedure

<u>Required Vendor Information</u>

VE170.314(g)(1)/(2) – 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 TD170.314(g)(1)/(g)(2) - eMAR - MU2 - 1: Test Data Scenario 1
VE170.314(g)(1)/(2) – 25.02:	Vendor shall identify the EHR function(s) that are available to: 1) support the method(s) of populating the numerator (g1,g2) and denominator (g2 only) for the percentage-based meaningful use measure, 2) electronically

record the numerator (g1,g2) and denominator (g2 only) for the measure, and 3) create a report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

Required Test Procedure

TE170.314(g)(1)/(2) – 25.01: Using the EHR function(s) identified by the Vendor, the Tester shall cause the EHR to create the baseline report that includes, at a minimum, the Test Cases entered in VE170.314(g)(1)/(2) – 25.01

TE170.314(g)(1)/(2) – 25.02: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - eMAR – MU2 - 3: Test Data Scenario 3 to cause the EHR to populate the numerator (g1,g2) and denominator (g2 only) of new patients or existing patients

TE170.314(g)(1)/(2) – 25.03: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - eMAR – MU2 - 4: Test Data Scenario 4 to populate the denominator only of new patients or existing patients

TE170.314(g)(1)/(2) – 25.04: The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - eMAR – MU2 - 5: Test Data Scenario 5 that do not populate the numerator (g1,g2) or denominator (g2 only) of new or existing patients

TE170.314(g)(1)/(2) – 25.05: Using Vendor identified EHR functions, the Tester causes the EHR to create the delta report that includes the numerator (g1,g2), and denominator and resulting percentage (g2 only)

TE170.314(g)(1)/(2) – 25.06: Using the Inspection Test Guide, the Tester shall verify the baseline and delta reports are 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 (g1,g2) and denominator (g2 only). The Tester uses the English Statements described in the Inspection Test Guide to verify the expected results

Inspection Test Guide for (g)(2)

IN170.314(g)(2) – 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 Cases

IN170.314(g)(2) – 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(g)(2) – 25.03: Using the information provided in TD170.314(g)(1)/(g)(2) - eMAR, the Tester shall verify that the baseline and delta reports including the numerator, denominator, and resulting percentage is created correctly and without omission

IN170.314(g)(2) – 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 TD170.314(g)(1)/(g)(2) - eMAR

Inspection Test Guide for (g)(1)

IN170.314(g)(1) – 25.01: Using the information provided in TD170.314 (g)(1)/(g)(2) - eMAR, the Tester shall verify that the baseline and delta reports including the numerator, are created correctly and without omission and include sufficient detail to match the patients or actions in the numerator report to the measure's denominator limitations

IN170.314(g)(1) – 25.02: The Tester shall verify that the baseline and delta reports reflect the expected results for the selected Test Cases as indicated in the "Numerator Recorded" column of TD170.314 (g)(1)/(g)(2) – eMAR

IN170.314(g)(1) – 25.03: The Tester shall verify that for the Test Case(s) selected in TE170.314(g)(1)/(2) – 25.04, recording of the numerator did not occur

Test Data Narrative

The test data set for this measure is ONC and Vendor-supplied. The Tester will designate the Test Cases to be used during the test, and the Vendor will supply the eMAR details.

The Test Data Scenarios only apply to the Stage 2 measure, as the eMAR objective is new for Stage 2 of meaningful use. The measure and associated Test Data Scenarios are only applicable in the EH/CAH setting.

The Test Data Scenarios for eMAR represent a combination of new and existing patients. New patients from Test Data Scenario 1 may appear as existing patients in Test Data Scenarios 2-5 to reflect an additional encounter or action when medication doses may be tracked by the eMAR.

Prior to the test, the Vendor will enter all patients and associated actions in 170.314(g)(1)/(g)(2) - eMAR - MU2 - 1: Test Data Scenario 1. The Tester will create the baseline report and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (g2 only).

The Tester will select a minimum of 1 Test Case from each of the four remaining Test Data Scenarios. In the remaining Test Data Scenarios, the "-" indicates there is no instance where the numerator can be populated without populating the denominator.

- 170.314(g)(1)/(g)(2) - eMAR - MU2 - 2: Test Data Scenario 2 - The use of "-" indicates that there is no instance where the numerator can be populated without populating the denominator
- 170.314(g)(1)/(g)(2) - eMAR - MU2 - 3: Test Data Scenario 3 - Tester shall select a minimum of 1 Test Case
- 170.314(g)(1)/(g)(2) - eMAR - MU2 - 4: Test Data Scenario 4 - Tester shall select a minimum of 1 Test Case

- 170.314(g)(1)/(g)(2) - eMAR - MU2 - 5: Test Data Scenario 5 - Tester shall select a minimum of 1 Test Case

The Tester will create the delta report that reflects the executed test procedure steps and record the number in the numerator (g1,g2), and the number in the denominator and the resulting percentage (for g2 only).

CONFORMANCE TEST TOOLS

The following testing tools are available to evaluate conformance to the standards referenced in this test procedure (DTR170.314(g)(1)/(2) – 17 Medication Reconciliation and DTR170.314(g)(1)/(2) – 18 Summary of Care):

- Transport Testing Tool (TTT) – the Transport Testing Tool is designed to support this test procedure. The Transport Testing Tool includes the capability to verify the ability to exchange Consolidated CDA (C-CDA) conformant documents using transport standards (e.g., Direct, Direct + XDM, SOAP). C-CDA conformance testing within the Transport Testing Tool relies on Model Driven Health Tools (MDHT) for Consolidated CDA validation developed by ONC.
    - The Transport Testing Tool (TTT) is available at: http://transport-testing.nist.gov

Support for these tools is available by submitting questions to the Transport Testing Tool user group at: https://groups.google.com/d/forum/transport-testing-tool. Inquiries may also be sent to this user group via email: transport-testing-tool@googlegroups.com

Multiple browsers may be used to access this tool; if the tool does not load completely using Internet Explorer 8 or Internet Explorer 9, alternative browsers such as Firefox, Google Chrome, or Safari are recommended. The Transport Testing Tool uses non-standard ports. If your firewall blocks HTTP traffic on non-standard ports, this tool may not be accessible. Please retry access from a location without a firewall that blocks non-standard ports. Alternatively users may download and run a local version of the tool.

The following information is provided to assist the Tester in interpreting the conformance reports generated by the conformance testing tools:

The Transport Testing Tool (TTT), 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
1.1	Delivered for National Coordinator Review	December 3, 2012
1.2	Posted Approved Test Procedure	December 14, 2012

1.3	In Informative Test Description (General)
	• Added "within a calendar year" after "any 90 consecutive days"
	• Replaced "December 12th" with "May 12th"
	• Added "90 consecutive days within a federal fiscal year"
	• Added "federal" in front of "fiscal year quarters (first, second, third, fourth)" and "fiscal year".
	DTR170.314(g)(1)/(2) – 1: Adjust Reporting Period and Stage
	In the Required Test Procedure section
	• Clarification added to TE 170.314(g)(1)/(2) – 1.02
	  ○ Designated "Ambulatory: Eligible Professional Reports" and "Inpatient: Eligible Hospital/Critical Access Hospital Reports" requirements
	  ○ For Ambulatory: Eligible Professional Reports
	  ▪ Added "within a calendar year" after "Any 90 consecutive days…"
	  ▪ Replaced "December 12th" with "May 12th"
	  ○ For Inpatient: Eligible Hospital/ Critical Access Hospital Reports
	  ▪ Added "Any 90 consecutive days within a federal fiscal year"
	  ▪ Added "federal" in front of "fiscal year" and "fiscal year quarters"
	DTR170.314.g2 – 7: Computerized Provider Order Entry (CPOE)
	In the Measure-specific Informative Test Description section
	• Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo
	DTR170.314.g2 – 8: Electronic Prescribing (eRx)
	In the Measure-specific Informative Test Description section
	• Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo
	DTR170.314.g2 – 12: Lab Results Incorporated
	In the Measure-specific Informative Test Description section
	• Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo
	DTR170.314.g2 – 14: View, Download, Transmit (VDT)
	In the Measure-specific Informative Test Description section
	• Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo
	In the Normative Test Procedure, Inspection Test Guide for (g)(1) section
	• Added test procedure step IN170.314(g)(1) – 14.04, "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 for ambulatory settings or 36 hours from discharge for inpatient settings
	• All CMS required elements (or indication of none) were made available online to the patient within 4 business
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	days for ambulatory settings or 36 hours for inpatient settings 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 for ambulatory settings or 36 hours for inpatient settings" DTR170.314.g2 – 15: Clinical Summary In the Measure-specific Informative Test Description section • Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo In the Normative Test Procedure, Inspection Test Guide for (g)(1) section • Added test procedure step IN170.314(g)(1) – 15.04, "The Tester shall verify: • The date the clinical summary was provided to the patient occurred within 3 business days (Stage 1) or 1 business day (Stage 2) of the office visit • All CMS required elements (or indication of none) were made available in the office visit" DTR170.314.g2 – 16: Patient Education In the Measure-specific Informative Test Description section • Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo DTR170.314.g2 – 17: Medication Reconciliation In the Measure-specific Informative Test Description section • Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo DTR170.314.g2 – 18: Summary of Care In the Measure-specific Informative Test Description section • Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo In the Normative Test Procedure, Required Vendor Information section • Removed test procedure step (formerly TE170.314(g)(1)/(2) – 18.02), "The Tester selects one or more Test Cases from TD170.314(g)(1)/(g)(2) - Summary of Care – MU1/MU2 - 2: Test Data Scenario 2 to cause the EHR to modify the Measure A numerator (g1,g2) and denominator and the Measure B denominator only of new patients (g2 only)" to reflect that there is no Test Data Scenario 2 • Updated test procedure step TE170.314(g)(1)/(2) – 18.08 (formerly 18.09) o Removed reference to TE170.314(g)(1)/(2) – 18.02 o Indicated that Test Case should be selected from TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3 DTR170.314.g2 – 20: Imaging In the Measure-specific Informative Test Description section • Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo DTR170.314.g2 – 22: Electronic Notes In the Measure-specific Informative Test Description section • Replaced DTR170.314(g)(1)/(2) – 2 with DTR170.314(g)(2) – 2 to correct typo	
1.4	DTR170.314(g)(2) - 3: Select Method to Determine Admissions (Inpatient Only) In the Required Vendor Information section o Incorrect reference to inpatient department as "(POS 23)" replaced with "(POS 21)" for	February 26, 2013

bullets (B) and (D) in VE 170.314(g)(2) – 3.01

In the Inspection Test Guide for (g)(2)

- Modified reference to inpatient department as "(POS 23)" replaced with "(POS 21)" for bullets (B) and (D) in IN170.314(g)(2)—3.01
- Added bullet (B), "Admitted to the ED and then admitted to the inpatient department (POS 21)" in IN170.314(g)(2)—3.02
- Modified reference to inpatient department as "(POS 23)" replaced with "(POS 21)" for bullet (D) in IN170.314(g)(2)—3.02
- Modified reference to inpatient department as "(POS 23)" replaced with "(POS 21)" for bullets (B) and (D) in IN170.314(g)(2)—3.03
- Added bullet (E), "Admitted to the inpatient department upon receiving observation services in the outpatient department of the hospital (POS 22)" in IN170.314(g)(2)—3.03

DTR170.314(g)(1)/(2) – 13: Patient Reminders

In the Measure-specific Informative Test Description

- Replaced references to Stage 2 numerator requirements for patient reminders sent "before, during and after the reporting period" with correct requirement for patient reminders sent "during the reporting period."

DTR170.314(g)(1)/(2) – 14: View, Download, Transmit (VDT)

In the Measure-specific Informative Test Description section

- Replaced "Measure 2" with "Measure B" to correct name

In the Test Data Narrative section

- Replaced "Measure 2" with "Measure B" to correct name
- Replaced "Measure 1" with "Measure A" to correct name

DTR170.314(g)(1)/(2) – 18: Summary of Care

In the Measure-specific Informative Test Description section

- Replaced "§170.314(b)(2)—Transitions of care – receive, display and incorporate transition of care/referral summaries" with correct reference to "§170.314(b)(2)—Transitions of care – create and transmit transition of care/referral summaries"

In the Normative Test Procedure section

- In Required Vendor Information section, removed test procedure step "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)" (formerly TE170.314(g)(1)/(2) – 18.03) due to lack of relevance for test data increments
- In Required Test Procedure section, modified language in TE170.314(g)(1)/(2) – 18.08 to provide clarification regarding increments for an additional encounter: "Using Vendor identified EHR functions, the Tester causes the EHR to create an additional encounter with a referral/transition of care for at least one of the Test Cases from TD170.314(g)(1)/(g)(2) - Summary of Care - MU1/MU2 - 3: Test Data Scenario 3"
- In Inspection Test Guide for (g)(2), added test procedure step, "The Tester shall verify that for any

	additional encounter(s) with a referral/transition of care created in TE170.314(g)(1)/(2) – 18.08, the numerator and denominator increment for every additional transition of care/referral that is created" (IN170.314(g)(2)—18.05) In the Test Data Narrative section • Added one paragraph, "This test procedure evaluates that patients who have more than one transition of care or referral within the reporting period will cause the denominator to increment for every transition of care or referral that is created (g2 only)." DTR170.314(g)(1)/(2) – 19: Secure Electronic Messaging In the Measure-specific Informative Test Description • Replaced references to Stage 2 numerator requirements for secure messages sent and received "before, during and after the reporting period" with correct requirement for secure messages sent and received "during the reporting period." DTR170.314(g)(1)/(2) – 24: Structured Lab EH to EP In the Measure-specific Informative Test Description section • Added name of CMS interim final rule • Replaced the word "first" with "original" in second paragraph to reference the measure that preceded the development of the alternate measure • Rephrased sentence to "EHR technology must have the capability to support measure calculation using both the existing and alternate denominators…" in second paragraph In Stage 2 Measure Elements • Created separate "Alternate Denominator" measure element to clarify denominator requirements for the alternate measure In the Normative Test Procedure section • Added clarification in VE170.314(g)(1)/(2) – 24.02 with reference to the original measure In the Test Data Narrative section • Added statement to clarify "The Test Data Scenarios reflect the requirements for the original measure denominator and alternate measure denominator."	
1.5	In the Document History for version 1.4 • Changed date of release to "February 26, 2013" to correct date error • Removed entry for "In Inspection Test Guide for (g)(2)" from DTR170.314(g)(1)/(2) – 24: Structured Lab EH to EP due to error of inclusion DTR170.314.g2 – 7: Computerized Provider Order Entry (CPOE) In the Measure-specific Informative Test Description section • Revised sentence to "The numerator is populated once per medication, laboratory, or radiology order that is recorded using CPOE by an EP/ authorized provider." DTR170.314(g)(1)/(2) – 24: Structured Lab EH to EP In the Measure-specific Informative Test Description section • Added paragraph for clarification: "The test procedure for this measure assesses that lab orders received by the hospital lab from ambulatory providers in an ambulatory setting will populate the denominator for this measure, and that lab orders received from providers in the inpatient and emergency departments	March 29, 2013

	are excluded from the denominator. Additionally, the test assesses that lab results sent to ordering providers will populate the numerator if the result is sent back to an ambulatory provider in an ambulatory setting." In the Measure Elements • Added denominator and alternate denominator exclusions for the inpatient and emergency department settings	
1.6	DTR170.314(g)(1)/(2) – 12: Lab Results Incorporated In the Measure-specific Informative Test Description section • Updated language in first and third paragraph to correct error in describing actions related to numerator population In the Normative Test Procedure section • Removed duplicate TE170.314(g)(1)(2) - 12.03 test step to correct incremental numbering error DTR170.314(g)(1)/(2) – 18: Summary of Care In the Measure-specific Informative Test Description section • Updated language in second paragraph to correct error in describing actions related to numerator population DTR170.314(g)(1)/(2) – 24: Structured Lab EH to EP In the Measure-specific Informative Test Description section • Updated language at end of first paragraph to correct error in describing actions related to numerator population	July 11, 2013
1.7	DTR170.314(g)(1)/(2) – 11: Smoking Status In the Measure-specific Informative Test Description section • Removed description limiting recording of smoking status to the EP to align with the CMS Final Rule discussion stating that there is no requirement that smoking status be entered into the record by a specific person • Added clarification that patients must be seen by the EP or admitted to POS 21 or 23 of the EH/CAH to be eligible for the denominator DTR170.314(g)(1)/(2) – 14: View, Download, Transmit (VDT) In the Measure-specific Informative Test Description section • Added description of Measure A and Measure B's corresponding CMS titles • Updated description to clarify test procedure and test data requirements for Measure A and Measure B • Reorganized paragraphs to clearly identify information related to Measure A and Measure B In the Normative Test Procedure section For all sections • Revised organization of test procedures to clearly identify Measure A test procedure steps from Measure B test procedure steps • Added Measure A test procedure steps to clarify Vendor requirements • Renumbered Measure B test procedure steps to account for addition of Measure A test procedure steps Inspection Test Guide section • Clarified (g)(1) and (g)(2) Inspection Test Guide steps for Measure A regarding CMS required information	March 21, 2014

	In Required Test Steps, Measure B Required Test Steps • Removed "MU 1" from Test Data titles to align with corresponding Test Data updates In Test Data Narrative section • Updated description to indicate that Measure A requires Vendor-supplied test data • Removed "MU 1" from all instances of Test Data titles to align with corresponding Test Data update DTR170.314.g2 – 15: Clinical Summary In the Measure-specific Informative Test Description section • Updated description to indicate that presence of all CMS required information prior to numerator population will be evaluated in the test procedure In the Normative Test Procedure section Required Test Steps section • Added test procedure step TE170.314(g)(1)/(2) – 15.08: "The Vendor shall describe and demonstrate the method(s) by which all CMS required information is made available in the clinical summary in order to populate the numerator. Using the Inspection Test Guide, the Tester shall verify that the method(s) described allow numerator population only upon provision of a clinical summary containing all required information (or indication of none) within 3 business days of an office visit for Stage 1 and within 1 business day of an office visit for Stage 2." Inspection Test Guide for (g)(2) section • Updated Inspection test steps to ensure presence of all CMS required information prior to numerator population in IN170.314(g)(2) – 15.05 Inspection Test Guide for (g)(1) section • Updated Inspection test steps to ensure presence of all CMS required information prior to numerator population in IN170.314(g)(1) – 15.04 DTR170.314(g)(1)/(2) – 18: Summary of Care In the Measure-specific Informative Test Description section • Added description of Measure A, Measure B, and Measure C's corresponding CMS titles • Updated description to indicate that presence of all CMS required information prior to numerator population will be evaluated in the test procedure In the Normative Test Procedure section Required Test Steps section • Removed "Ambulatory Summary" and "Inpatient Summary" in test procedure step TE170.314(g)(1)/(2) – 18.03 and replaced with "summary of care documents" to align with CMS measure requirements Inspection Test Guide for (g)(2) section • Updated Inspection test steps to ensure presence of all CMS required information prior to numerator population in IN170.314(g)(2) – 18.07 Inspection Test Guide for (g)(1) section • Updated Inspection test steps to ensure presence of all CMS required information prior to numerator population in IN170.314(g)(1) – 18.05	
1.8	DTR170.314(g)(1)/(2) – 17: Medication Reconciliation In the Measure-specific Informative Test Description section • Updated description to indicate that the Stage 2 definition of a transition of care applies to Stage 1 In the Measure English Statements and Measure Elements	June 17, 2014

	• Consolidated Stage 1 and Stage 2 Measure English Statements and Measure Elements to reflect use of the same transition of care denominator in both Stages In the Test Data Narrative • Updated description of Test Data format to align with Medication Reconciliation Test Data update DTR170.314(g)(1)/(2) – 18: Summary of Care In the Measure-specific Informative Test Description section • Updated description to indicate that the absence of all CMS required information should fail to populate the numerator • Updated description to indicate that the Stage 2 definition of a transition of care applies to Stage 1 In the Measure English Statements and Measure Elements • Updated Stage 1 denominator Measure English Statements and Measure Elements to align with Stage 2 denominator Measure English Statements and Measure Elements Inspection Test Guide for (g)(2) section • Updated Inspection test steps to clarify that the absence of all CMS required information should fail to populate the numerator in IN170.314(g)(2) – 18.07 Inspection Test Guide for (g)(1) section • Updated Inspection test steps to clarify that the absence of all CMS required information should fail to populate the numerator in IN170.314(g)(1) – 18.05	
1.8a	Typographical corrections made to Test Procedure	July 8, 2014