

# §170.315(g)(2) Automated measure calculation

2015 Edition CCGs

Version 2.2 Updated on 09-30-2019

## Revision History

Version #	Description of Change	Version Date
1.0	Initial Publication	02-05-2016
1.1	<p>Added clarification on which Health IT Modules must test to the EP/EC Individual, EC Group, and EH/CAH tests.</p> <p>Clarified when actions must occur to increment the numerator.</p> <p>Clarified how Health IT Modules must test for Required Test 2, and the documentation that they must submit.</p>	10-21-2016
1.2	<p>Added references to the QPP.</p> <p>Added clarification on deduplication of patients and the transitive effect for the numerator on the EC Individual and Group calculation methods.</p> <p>Added information about the self-testing option.</p> <p>Modified the information on when actions must occur to populate the numerator based on recent CMS guidance.</p>	01-04-2017

1.3	<p>Added clarification on Health IT Module's capability requirements on recording TIN/NPI combinations.</p> <p>Added clarification on confirmation of receipt of a C-CDA by a receiving provider prior to incrementing the numerator.</p> <p>Added links to measure-specific guidance.</p>	03-17-2017
1.4	<p>Added clarification for patient education materials, MU3 Objective 5 automated measure calculation eligibility.</p>	07-07-2017
1.5	<p>Provided additional clarification for the patient-specific education measure regarding provider ability to configure systems based on patient information.</p>	08-25-2017
1.6	<p>Added clarification on numerator inclusion for the patient-specific education measure, which provides certification guidance for the use of automation in the provision of patient-specific education materials.</p>	09-29-2017
1.7	<p>Added clarification about flexibility for testing this criterion and developer expectations for measures to which the transitive effect applies when the</p>	02-01-2018

	Health IT Module is unable to differentiate actions at the TIN/NPI level.	
1.8	<p>Added clarification that both the EC Individual and EC Group calculation methods must be tested by a Health IT Module supporting the ACI and/or the ACI Transition calculation method(s). Modified the timely access requirement for the ACI Patient Access measure based on a CMS policy change per the QPP CY 2018 final rule (<a href="#">82 FR 53568</a>).</p> <p>Modified the information on when actions must occur to populate the numerator for Stage 3 measures starting in 2019 based on <a href="#">2019 IPPS Final Rule</a>. Modified the name of the EHR Incentive Program to the Promoting Interoperability Program. Updated the Measure-Specific Guidance from CMS.</p>	08-17-2018
1.9	<p>Modified the name of the Advancing Care Information Transition and Advancing Care Information measures to Promoting Interoperability Transition and Promoting Interoperability. Modified the information on when actions must occur to populate the numerator for Promoting Interoperability measures starting in 2019 based on the <a href="#">2019 PFS final rule</a>.</p>	12-07-2018

2.0	Added a link to CMS FAQs on the new Medicare Promoting Interoperability opioid measures for eligible hospitals in 2019.	02-28-2019
2.1	Added a link to CMS FAQs on the new Medicare Promoting Interoperability Support Electronic Referral Loops by Receiving and Incorporating Health Information measure for eligible hospitals in 2019.	04-26-2019
2.2	Added text noting that the previously published CMS FAQs on the new opioid measures and the Support Electronic Referral Loop apply in the Promoting Interoperability performance category of MIPS.	09-30-2019

### Regulation Text

#### Regulation Text

§170.315 (g)(2) *Automated measure calculation*—

For each EHR Incentive Programs percentage-based measure that is supported by a capability included in a technology, record the numerator and denominator and create a report including the numerator, denominator, and resulting percentage associated with each applicable measure.

### Standard(s) Referenced

None

## Certification Companion Guide: Automated measure calculation

This Certification Companion Guide (CCG) is an informative document designed to assist with health IT product development. The CCG is not a substitute for the 2015 Edition final regulation. It extracts key portions of the rule's preamble and includes subsequent clarifying interpretations. To access the full context of regulatory intent please consult the 2015 Edition final rule or other included regulatory

reference. The CCG is for public use and should not be sold or redistributed.

[Link to Final Rule Preamble](#)

<b>Edition Comparison</b>	<b>Gap Certification Eligible</b>	<b>Base EHR Definition</b>	<b>In Scope for CEHRT Definition</b>
Revised	Yes	Not Included	Yes

## Certification Requirements

This certification criterion was adopted at § 170.315(g)(2). Quality management system (§ 170.315(g)(4)) and accessibility-centered design (§ 170.315(g)(5)) need to be certified as part of the overall scope of the certificate issued to the product.

- When a single quality management system (QMS) is used, the QMS only needs to be identified once. Otherwise, the QMS' need to be identified for every capability to which it was applied.
- When a single accessibility-centered design standard is used, the standard only needs to be identified once. Otherwise, the accessibility-centered design standards need to be identified for every capability to which they were applied; or, alternatively the developer must state that no accessibility-centered design was used.

### Measure-Specific Guidance from CMS

- [Medicare and Dual Eligible Hospitals Modified Stage 2](#)
- [Medicare and Dual Eligible Hospitals Stage 3](#)
- [Medicaid-only EH Stage 3 for 2018](#)
- [Medicaid-only EH Modified Stage 2 for 2018](#)
- [Medicaid EP Stage 3 for 2018](#)
- [Medicaid EP Modified Stage 2 for 2018](#)
- [Medicare EC Promoting Interoperability Transition and Promoting Interoperability](#)

### Table for Design and Performance

- [Quality management system \(§ 170.315\(g\)\(4\)\)](#)
- [Accessibility-centered design \(§ 170.315\(g\)\(5\)\)](#)

## Technical Explanations and Clarifications

**Applies to entire criterion**

Technical outcome – A user can create a report that includes the numerator, denominator, and resulting percentage for each applicable percentage-based Promoting Interoperability Programs measure supported.

### Clarifications:

- There is no standard required for this certification criterion.
- The gap certification eligibility of this criterion at § 170.315(g)(2) depends on any modifications to the certification criteria to which this criterion applies and relevant Stage 3 Promoting Interoperability objectives and measures.
- ONC administers the ONC Health IT Certification Program; CMS administers the Promoting Interoperability and Quality Payment Programs. Questions regarding requirements for the Promoting Interoperability and Quality Payment Programs should be directed to CMS.
- ONC has issued an [FAQ \(#50\)](#) on testing and certification for the 2014 Edition automated numerator recording (§ 170.314(g)(1)) and automated measure calculation (§ 170.314(g)(2)) certification criteria for measures which are no longer included in the Promoting Interoperability criteria based for EHR reporting periods in 2015-2017 based on updates included in the CMS final rule. [see also [80 FR 62761](#), [80 FR 62785](#), [80 FR 62875](#)] Although this FAQ references the 2014 Edition certification criteria for automated numerator recording and automated measure calculation, the policy applies to testing and certification for the 2015 Edition automated numerator recording (§ 170.315(g)(1)) and automated measure calculation (§ 170.315(g)(2)) certification criteria if the Health IT Module will be used to report on measures in 2016 and 2017.
  - The following measures are no longer applicable for CMS Promoting Interoperability Programs:
    - Demographics
    - Vital signs
    - Smoking status
    - Clinical summaries
    - Incorporate lab results
    - Patient reminders
    - Electronic notes
    - Imaging
    - Family health history
    - Problem list
    - Medication list
    - Medication allergy list
    - Advance directives
    - Electronic medication administration record (eMAR)
    - Send labs from EH to EP
    - CPOE Medications (EH and EC only)
    - CPOE Laboratory (EH and EC only)
    - CPOE Radiology/Diagnostic Imaging (EH and EC only)
- Please refer to CMS' [Promoting Interoperability Programs webpage](#) and [Quality Payment Program webpage](#) for more resources on specific measures.
- Three measures are eligible for gap certification: 1) Required Test 10 – CPOE Medications, Modified Stage 2 Objective 3 Measure 1 and Stage 3 Objective 4 Measure 1; 2) Required Test 11 – CPOE Laboratory, Modified Stage 2 Objective 3 Measure 2 and Stage 3 Objective 4 Measure 2; and 3) Required Test 11 – CPOE Radiology/Diagnostic Imaging, Modified Stage 2 Objective 3 Measure 3 and Stage 3 Objective 4 Measure 3.
- The test for (g)(2) does not require a live demonstration of recording data and generating reports. Health IT developers may self-test their Health IT Modules(s) and submit the resulting reports to the ONC-ATL to verify compliance with the criterion. The test procedure specifies what reports must be submitted for the Global Required Test and each Required Test, as well as what the tester must verify within each report.

- Health IT Modules are required to de-duplicate test patients when aggregating together data for the Eligible Clinician (EC) Group calculation method.
- Health IT Modules that are testing for the Promoting Interoperability and/or Promoting Interoperability Transition calculation method(s) must test for both the EC Individual and EC Group calculation methods.
- Health IT Modules that are testing for the EC Individual and EC Group calculation methods are required to be able to record an EC's TIN. Further, they are also required to be able to associate a single NPI with multiple TINs within a single instance, database, etc. of the Health IT Module. Health IT Modules that are testing for the Individual EP calculation method only are not required to record TIN or be able to associate a single NPI to multiple TINs.
- For the EC Individual and Group calculation methods, actions that accrue to the numerator have a transitive effect across all of the TINs that an individual NPI is included in. For example, if an EC provides patient education materials to a patient under TIN A, they will receive credit in the numerator for TIN B as long as the same NPI is used in both TINs and the same Health IT Module (i.e. same database, instance, etc.) is used. The test data reflects this transitive effect.
- The capability for technology to populate the numerator before, during, and after the reporting/performance period depends on the numerator and denominator statements for the Promoting Interoperability measure. Developers should refer to the numerator and denominator statements in the measure specification sheets provided by CMS' [Promoting Interoperability Programs webpage](#) to determine the reporting/performance period technology needs to support. Regardless of whether an action must occur during the reporting/performance period or can occur outside of the reporting/performance period, all actions must occur during the calendar year of the reporting/performance period.
  - Starting in 2019, CMS has clarified that the numerator for the Medicare Stage 3 EH/CAH measures is constrained to the EHR reporting period. The numerator action therefore must take place during the reporting period. Actions occurring outside of the reporting period, including after the calendar year will not count in the numerator.
  - For a reporting period in CY 2018, a Medicare Stage 3 EH/CAH Measure numerator action may continue to be calculated using a system that does not constrain the numerator to the EHR reporting period to allow time to transition to the new approach beginning in CY 2019
  - For the Modified Stage 2 measures, CMS clarified that a numerator is not constrained to an EHR reporting period when the EHR reporting period is less than one year. The numerator action may reasonably fall outside the EHR reporting period timeframe but must take place no earlier than the start of the calendar year and no later than the end of the calendar year in order for the patients to be counted in the numerator. As such, actions occurring after the end of the reporting period's calendar year will not count in the numerator.
  - Starting in 2019, a Promoting Interoperability Measure numerator and denominator is constrained to the performance period chosen, with the exception of the Security Risk Analysis measure which may occur any time during the calendar year.
  - For a performance period in CY 2018, a Promoting Interoperability Measure numerator is not constrained to the EHR reporting period unless expressly stated in the numerator statement for a given Promoting Interoperability measure, and the numerator action may reasonably fall outside the EHR reporting period timeframe but must take place no earlier than the start of the calendar year and no later than the end of the calendar year in order for the patients to be counted in the numerator. As such, actions occurring after the end of the reporting period's calendar year will not count in the numerator.
- Although being put on observation in the outpatient department (POS 22) by itself would not qualify a patient towards counting in the denominator for the ED Visits method, please note that the first part of Scenario E in IN170.314(g)(2) – 3.03 specifies an admission to the inpatient department (POS 21) after being placed on observation in POS 22. The admission as an inpatient is what qualifies the patient for the denominator of the All ED Visits method in this scenario. Patients who are admitted as inpatients, regardless of whether they may have been admitted previously, should be included in the denominator for both eligible hospital denominator methods.
- It is possible for the action of “record” in this certification criterion to be implemented in different ways. For example, “record” could comprise the ability of a centralized analytics Health IT Module to accept or retrieve raw data from another Health IT Module or Health IT Modules. Other possible methods could include a Health IT Module that accepts or retrieves raw data, analyzes the data, and then generates a report based on the analysis; a Health IT Module that separately tracks each capability with a percentage-based Promoting Interoperability measure and later aggregates the

numbers and generates a report; or an integrated bundle of Health IT Modules in which each of the Health IT Modules that is part of the bundle categorizes relevant data, identifies the numerator and denominator and calculates, when requested, the percentage associated with the applicable Promoting Interoperability Programs measure. In each of these examples, the action of “record” means to obtain the information necessary to generate the relevant numerator and denominator. [see also [FAQ #20](#)]

- What is required for certification for this criterion depends on the type of flexibility identified by CMS.
  - In some cases, CMS identifies certain measurement flexibilities that are limited to “either/or” options. In these cases, technology presented for certification must be able to calculate the percentage based on both identified options.
  - In cases where CMS has identified measurement flexibilities that are open-ended and dependent on a unique decision by an EP, EC, eligible hospital, or CAH at the practice/organization-level for a given EHR reporting period (such as: calculating hospital admissions based on the observation services method or the all ED method and excluding certain orders from the CPOE measure because they are protocol/standing orders), then the technology presented for certification is not required to support every possible method of calculation in order to meet this certification criterion. Rather, the technology must support at least one calculation method for a certification criterion, as long as the technology supports all distinct options for measurement (such as including controlled substances in the eRx measure or not). We strongly encourage technology developers to work with their clients and to incorporate as many of these practice/organization-level open-ended flexibilities in the technology as appropriate to make the Promoting Interoperability measures as relevant as possible to their clients’ scopes of practice. [[77 FR 54244–54245](#) and [ONC FAQ #32](#)]
- Capabilities to perform automated measure calculation are split into two sections. (1) The ability to address required capabilities across any Health IT Module included for testing (global) and (2) the ability to perform required capabilities specified by specific measures listed above (measure specific).
  - Global requirements include the ability for the module to create reports for measures for a specific reporting period. In the inpatient care setting only, the ability to allow eligible hospitals and critical access hospitals to calculate emergency department admissions using one of two methods (observation services method or all ED visits methods) must be made available. Note that only one required tests allows EHs and CAHs to calculate measures by one of these methods. Global requirements also include the ability for the module to correctly include or exclude actions that occur inside or outside of the reporting/performance period or calendar year.
  - Measure specific requirements address the capability of the technology to electronically record the numerator and denominator and resulting percentage for each Promoting Interoperability objective with a percentage-based measure and the capability to create a report that includes the numerator, denominator and resulting percentage recorded that is associated with each percentage-based Promoting Interoperability measure.
- We also apply to this 2015 Edition “automated measure calculation” criterion the clarification and guidance included for certification to the 2014 Edition “automated measure calculation” criterion in the [2014 Edition Release 2 rulemaking](#) [[79 FR 10920](#) and [54445](#)].
  - A Health IT Module may be certified to only the “automated measure calculation” certification criterion (§ 170.315(g)(2)) in situations where the Health IT Module does not include a capability that supports a Promoting Interoperability Program percentage-based measure, but can meet the requirements of the “automated measure calculation” certification criterion.
  - An example of this would be an “analytics” Health IT Module where data is fed from other health IT, and the Health IT Module can record the requisite numerators, denominators and create the necessary percentage report as specified in the “automated measure calculation” certification criterion.
- ONC-ACBs can certify a Health IT Module to either § 170.315(g)(1) or (g)(2) per [FAQ #28](#). ONC-ACBs should refer to the scenarios outlined in [FAQ #28](#) for further details.
- Modified Stage 2 Objective 5 Measure 1, Stage 3 Objective 7 Measure 1, Promoting Interoperability Transition Objective 6 Measure 1, and Promoting Interoperability Objective 5 Measure 1 require that the EP/EC/EH/CAH confirm receipt of the summary of care by the referred to provider in order to increment the numerator. The test data tests this baseline requirement by requiring that a Health IT Module demonstrate confirmation of receipt before incrementing the numerator. ONC does not require a specific method Health IT Modules should use to confirm receipt. Health IT Modules could



use a number of methods, including but not limited to, the Direct Message Disposition Notification, a check box, report verifications, etc.

- The test data used for this criterion is supplied by ONC and is organized into 5 Test Data scenarios, with a single set of 12 Test Cases. Health IT developers are required to use the ONC-supplied test data and may not modify the test case names.
- Stage 3 CMS Objective 5 Measure 1, Patient Access requires that two conditions be met in order to increment/populate the numerator: patient data must be available to view, download, or transmit AND it must be available to an API within 48 hours (EP) or 36 hours (EH/CAH). Promoting Interoperability CMS Objective 3 Measure 1, Patient Access requires that two conditions be met in order to increment/populate the numerator: patient data must be available to view, download, or transmit AND it must be available to an API within 4 business days (EC). As such, Health IT Modules certified to only (e)(1) or certified to only (g)(8) or (g)(9) will be required to demonstrate that the product increments the denominator for the condition for which they are certified. For example, if the Test Case indicates that only view, download, or transmit was met, the numerator will increment for products certified to (e)(1) but will not increment for products certified to (g)(8) or (g)(9). Health IT Modules certified for (e)(1) AND (g)(8) or (g)(9) will be expected to increment the numerator as the measure specifies. Health IT Modules certified to only (e)(1) or certified to only (g)(8) or (g)(9) will be required to provide documentation during testing that demonstrates how the Health IT Module performs the calculation for its “portion” of the measure as a condition of passing testing. This documentation must also be made available with the health IT developer’s transparency statement regarding costs and limitations. Documentation should enable Eligible Professionals, Eligible Clinicians, Eligible Hospitals, and Critical Access Hospitals to determine how to correctly add together the numerator and denominator from systems providing each of the capabilities.
- EH/CAH/EP MU3 Objective 5 Measure 2, EH/CAH/EP Modified Stage 2 Objective 6, Promoting Interoperability Transition Objective 4, and Promoting Interoperability Objective 3: Patient educational material identified by the patient rather than the provider do not qualify for inclusion in the automated measure calculation. Providers may configure their health IT to automatically make available patient education materials based on patient-specific information. For numerator inclusion, the automated provision of patient-specific education materials must demonstrate that the health care provider can determine the clinical relevance of such materials, either at a clinician level, provider organization level, or both.
- CMS has issued [FAQ 22521](#) regarding the application of the transitive effect to certain MIPS Promoting Interoperability measures. For the purposes of testing to this criterion, the test data is structured to differentiate actions between TIN/NPI combinations. However, Health IT Modules that are not able to differentiate actions between TIN/NPI combinations for the measures to which the transitive effect applies are not required to demonstrate this capability. ONC-ATLs may offer flexibility during testing regarding the transitive effect and focus on the outcome to ensure the correct numerator and denominator are calculated by the Health IT Module. At a minimum, developers of Health IT Modules unable to differentiate actions at the TIN/NPI level for those measures to which the transitive effect applies must provide sufficient documentation and explanation of alternate workflows to the ONC-ATL to demonstrate how actions taken by a provider relate to the numerator and denominator. Health IT developers must also provide documentation to providers on configuration and the logic for properly using the “automated measure calculation” functionality, including details on how the developer has implemented the transitive effect policy.
- CMS has issued a series of [FAQs](#) that provide additional guidance on the new Medicare Promoting Interoperability Program opioid measures for EHs in 2019: Query of Prescription Drug Monitoring Program, and Verify Opioid Treatment Agreement. The FAQs also apply in 2019 for the new opioid measures in the Promoting Interoperability performance category of MIPS.
- CMS has issued a series of [FAQs](#) that provide additional guidance on the new Medicare Promoting Interoperability Program measure for EHs in 2019: Support Electronic Referral Loops by Receiving and Incorporating Health Information measure. The FAQs also apply in 2019 for the Support Electronic Referral Loops by Receiving and Incorporating Health Information measure in the Promoting Interoperability performance category of MIPS.

