

## Test Procedure for §170.304 (j) Calculate and Submit Clinical Quality Measures

This document describes the draft test procedure for evaluating conformance of complete EHRs or EHR modules<sup>1</sup> to the certification criteria defined in 45 CFR Part 170 Subpart C of the Final Rule for Health Information Technology: Initial Set of standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology as published in the Federal Register on July 28, 2010. The document<sup>2</sup> 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://healthcare.nist.gov/docs/TestProcedureOverview\\_v1.pdf](http://healthcare.nist.gov/docs/TestProcedureOverview_v1.pdf). The test procedures may be updated to reflect on-going feedback received during the certification activities.

The HHS/Office of the National Coordinator for Health Information Technology (ONC) has defined the standards, implementation guides and certification criteria used in this test procedure. Applicability and interpretation of the standards, implementation guides and certification criteria to EHR technology is determined by ONC. Test procedures to evaluate conformance of EHR technology to ONC's requirements are defined by NIST. Testing of EHR technology is carried out by ONC-Authorized Testing and Certification Bodies (ATCBs), not NIST, as set forth in the final rule establishing the Temporary Certification Program (*Establishment of the Temporary Certification Program for Health Information Technology, 45 CFR Part 170; June 24, 2010.*)

Questions about the applicability of the standards, implementation guides or criteria should be directed to ONC at [ONC.Certification@hhs.gov](mailto:ONC.Certification@hhs.gov). Questions about the test procedures should be directed to NIST at [hit-tst-fdbk@nist.gov](mailto:hit-tst-fdbk@nist.gov). Note that NIST will automatically forward to ONC any questions regarding the applicability of the standards, implementation guides or criteria. Questions about functions and activities of the ATCBs should be directed to ONC at [ONC.Certification@hhs.gov](mailto:ONC.Certification@hhs.gov).

### CERTIFICATION CRITERIA

This Certification Criterion is from the Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology Final Rule issued by the Department of Health and Human Services (HHS) on July 28, 2010.

§170.304 (j) Calculate and submit clinical quality measures.

(1) Calculate.

(i) Electronically calculate all of the core clinical measures specified by CMS for eligible professionals.

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<sup>1</sup> Department of Health and Human Services, 45 CFR Part 170 Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, Final Rule, July 28, 2010.

<sup>2</sup> Disclaimer: Certain commercial products are identified in this document. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology.

- (ii) Electronically calculate, at a minimum, three clinical quality measures specified by CMS for eligible professionals, in addition to those clinical quality measures specified in paragraph (1)(i).
- (2) Submission. Enable a user to electronically submit calculated clinical quality measures in accordance with the standard and implementation specifications specified in §170.205(f).

Per Section III.D of the preamble of the Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, Final Rule where the calculate and submit clinical quality measures certification criterion is discussed:

- “In light of the final approach CMS has taken with respect to clinical quality measures for meaningful use Stage 1, we have revised this certification to better align it with the Medicare and Medicaid EHR Incentive Programs final rule requirements. We also agree with those commenters that requested we explicitly focus the report of quality measures certification criterion, and the certification criteria in general, on Federal requirements and have removed the reference to “or States” in this certification criterion.”
- “To better align this certification criterion with the final approach to clinical quality measures in the Medicare and Medicaid EHR Incentive Programs final rule, we have determined that it is no longer sufficient to specify one general certification criterion for both Complete EHRs and EHR Modules designed for either an ambulatory or inpatient setting.”
- “Complete EHRs and EHR Modules designed for an ambulatory setting will be required to be tested and certified as being compliant with all 6 of the core (3 core and 3 alternate core) clinical quality measures specified by CMS for eligible professionals (Section II(A)(3) of the Medicare and Medicaid EHR Incentive Programs final rule). Complete EHRs and EHR Modules designed for an ambulatory setting will also be required to be tested and certified as being compliant with, at a minimum, 3 of the additional clinical quality measures CMS has identified for eligible professionals (Section II(A)(3) of the Medicare and Medicaid EHR Incentive Programs final rule).”

## INFORMATIVE TEST DESCRIPTION

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

This test evaluates the capability for a Complete EHR or EHR Module to electronically calculate all of the *core* clinical measures specified by CMS for eligible professionals; electronically calculate, at a minimum, three clinical quality measures specified by CMS for eligible professionals, excluding those *core* clinical quality measures specified previously; and electronically submit calculated clinical quality measures in accordance with the standard and implementation specifications specified in §170.205(f).

This test procedure evaluates conformance to the Physician Quality Reporting Initiative (PQRI) standard and implementation specifications identified in the FR; however, the test procedure does not fully evaluate the correctness of the implemented algorithms or calculation of the quality measures based on Vendor test data. An automated test tool to determine the correct calculation of measures is currently under development through an HHS/ONC effort.

The Vendor provides the test data for this test procedure.

This test procedure is organized into two sections:

- Calculate clinical quality measures – evaluates the capability to electronically calculate
  1. all six of the *core* clinical measures specified by CMS for eligible professionals and
  2. at a minimum, three clinical quality measures specified by CMS for eligible professionals, excluding the six *core* clinical quality measures
    - The Tester examines the core clinical quality measures specified by CMS and implemented in the EHR
    - The Tester validates that these core quality measures are electronically calculated by the EHR
    - The Tester examines the three or more clinical quality measures (excluding the six *core* clinical quality measures) specified by CMS for eligible professionals and implemented in the EHR
    - The Tester validates that these three or more clinical quality measures are electronically calculated by the EHR
    - The Tester will evaluate, to the extent possible given the Vendor-supplied data used in this Test Procedure, the calculations of the measures as described by the Vendor
  
- Submit calculated clinical quality measures – evaluates the capability to electronically submit calculated quality measures in accordance with the standard and implementation specifications
  - The Tester electronically submits the clinical quality measures calculated in the Calculate Clinical Quality Measures test
  - The Tester validates that the calculated clinical quality measures are submitted in accordance with the PQRI standard and implementation specifications
  - The Tester will evaluate, to the extent possible given the Vendor-supplied data used in this Test Procedure, the calculations of the measures as described by the Vendor

## REFERENCED STANDARDS

170.205 Content exchange standards and implementation specifications for exchanging electronic health information.

Regulatory Referenced Standard

(f) Quality reporting. Standard. The CMS Physician Quality Reporting Initiative (PQRI) 2009 Registry XML Specification (incorporated by reference in §170.299). Implementation specifications. Physician Quality Reporting Initiative Measure Specifications Manual for Claims and Registry (incorporated by reference in §170.299).

## NORMATIVE TEST PROCEDURES

### Derived Test Requirements

DTR170.304.j – 1: Electronically calculate clinical quality measures

DTR170.304.j – 2: Electronically submit calculated clinical quality measures

### **DTR170.304.j – 1: Electronically calculate clinical quality measures**

#### Required Vendor Information

- VE170.304.j – 1.01: Vendor shall provide the test data necessary to accomplish the test procedure
- VE170.304.j – 1.02: Vendor shall describe the calculations for the specified CMS *core* clinical quality measures that are implemented in the EHR to be used for this test
- VE170.304.j – 1.03: Vendor shall identify and describe the calculations for the three or more of the specified CMS clinical quality measures (excluding the *core* clinical quality measures) that are implemented in the EHR to be used for this test
- VE170.304.j – 1.04: Vendor shall identify the EHR function(s) that are available to: 1) electronically calculate the CMS clinical quality measures 2) electronically submit calculated clinical quality measures

#### Required Test Procedure:

- TE170.304.j – 1.01: Using the EHR function(s) identified by the Vendor, the Tester shall electronically calculate the specified CMS *core* clinical quality measures
- TE170.304.j – 1.02: Using the NIST-supplied Inspection Test Guide, the Tester shall verify that the *core* clinical quality measures are electronically calculated
- TE170.304.j – 1.03: Using the EHR function(s) identified by the Vendor and three or more of the specified CMS clinical quality measures identified by the Vendor in VE170.304.j – 1.03, the Tester shall electronically calculate these CMS clinical quality measures
- TE170.304.j – 1.04: Using the NIST-supplied Inspection Test Guide, the Tester shall verify that the three or more of the specified CMS clinical quality measures are electronically calculated

#### Inspection Test Guide

- IN170.304.j – 1.01: Using the specified CMS *core* clinical quality measures listed in the table below, Tester shall verify that these clinical quality measures are calculated as described by the Vendor in VE170.304.j – 1.02

### **Specified CMS Core and Alternate Core Clinical Quality Measures for Eligible Professionals**

Per Department of Health and Human Services, Centers for Medicare & Medicaid Services, 42 CFR Parts 412, 413, 422, and 495, CMS-0033-F, RIN 0938-AP78, Medicare and Medicaid Programs; Electronic Health Record Incentive Program, Final Rule, July 28, 2010.

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description	Core/Alternate Core Clinical Quality Measure
NQF 0421 PQRI 128	<b>Title:</b> Adult Weight Screening and Follow-Up <b>Description:</b> Percentage of patients aged 18 years and older with a calculated BMI in the past six months or during the current visit documented in the medical record AND if the most recent BMI is outside parameters, a follow-up plan is documented.	Core
NQF 0013	<b>Title:</b> Hypertension: Blood Pressure Measurement <b>Description:</b> Percentage of patient visits for patients aged 18 years and older with a diagnosis of hypertension who have been seen for at least 2 office visits, with blood pressure (BP) recorded.	Core
NQF 0028	<b>Title:</b> Preventive Care and Screening Measure Pair: a. Tobacco Use Assessment, b. Tobacco Cessation Intervention <b>Description:</b> Percentage of patients aged 18 years and older who have been seen for at least 2 office visits who were queried about tobacco use one or more times within 24 months b. Percentage of patients aged 18 years and older identified as tobacco users within the past 24 months and have been seen for at least 2 office visits, who received cessation intervention.	Core
NQF 0041 PQRI 110	<b>Title:</b> Preventive Care and Screening: Influenza Immunization for Patients ≥ 50 Years Old <b>Description:</b> Percentage of patients aged 50 years and older who received an influenza immunization during the flu season (September through February).	Alternate Core
NQF 0024	<b>Title:</b> Weight Assessment and Counseling for Children and Adolescents <b>Description:</b> Percentage of patients 2 -17 years of age who had an outpatient visit with a Primary Care Physician (PCP) or OB/GYN and who had evidence of BMI percentile documentation, counseling for nutrition and counseling for physical activity during the measurement year.	Alternate Core
NQF 0038	<b>Title:</b> Childhood Immunization Status <b>Description:</b> Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio(IPV), one measles, ,mumps and rubella (MMR); two H influenza type B (HiB); three hepatitis B (Hep B); one chicken pox (VZV); four pneumococcal conjugate (PCV); two hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine and nine separate combination rates.	Alternate Core

The Tester will evaluate, to the extent possible given the Vendor-supplied test data used in this test procedure, the calculations of the measures as described by the Vendor.

IN170.304.j – 1.02: Using three or more of the specified CMS clinical quality measures listed in the table below and identified by the Vendor, Tester shall verify that these clinical

quality measures are calculated as described by the Vendor in VE170.304.j –  
 1.03

### Specified CMS Clinical Quality Measures for Eligible Professionals

(excluding Core and Alternate Core Clinical Quality Measures)

Per Department of Health and Human Services, Centers for Medicare & Medicaid Services, 42 CFR Parts 412, 413, 422, and 495, CMS-0033-F, RIN 0938-AP78, Medicare and Medicaid Programs; Electronic Health Record Incentive Program, Final Rule, July 28, 2010.

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0059 PQRI 1	<b>Title:</b> Diabetes: Hemoglobin A1c Poor Control <b>Description:</b> Percentage of patients 18 - 75 years of age with diabetes (type 1 or type 2) who had hemoglobin A1c > 9.0%.
NQF 0064 PQRI 2	<b>Title:</b> Diabetes: Low Density Lipoprotein (LDL) Management and Control <b>Description:</b> Percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had LDL-C < 100 mg/dL.
NQF 0061 PQRI 3	<b>Title:</b> Diabetes: Blood Pressure Management <b>Description:</b> Percentage of patients 18 - 75 years of age with diabetes (type 1 or type 2) who had blood pressure <140/90 mmHg.
NQF 0081 PQRI 5	<b>Title:</b> Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of heart failure and LVSD (LVEF < 40%) who were prescribed ACE inhibitor or ARB therapy.
NQF 0070 PQRI 7	<b>Title:</b> Coronary Artery Disease (CAD): Beta-Blocker Therapy for CAD Patients with Prior Myocardial Infarction (MI) <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of CAD and prior MI who were prescribed beta-blocker therapy.
NQF 0043 PQRI 111	<b>Title:</b> Pneumonia Vaccination Status for Older Adults <b>Description:</b> Percentage of patients 65 years of age and older who have ever received a pneumococcal vaccine.
NQF 0031 PQRI 112	<b>Title:</b> Breast Cancer Screening <b>Description:</b> Percentage of women 40-69 years of age who had a mammogram to screen for breast cancer.
NQF 0034 PQRI 113	<b>Title:</b> Colorectal Cancer Screening <b>Description:</b> Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer.
NQF 0067 PQRI 6	<b>Title:</b> Coronary Artery Disease (CAD): Oral Antiplatelet Therapy Prescribed for Patients with CAD <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of CAD who were prescribed oral antiplatelet therapy.
NQF 0083 PQRI 8	<b>Title:</b> Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of heart failure who also have LVSD (LVEF < 40%) and who were prescribed beta-blocker therapy.

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0105 PQRI 9	<p><b>Title:</b> Anti-depressant medication management: (a) Effective Acute Phase Treatment,(b)Effective Continuation Phase Treatment</p> <p><b>Description:</b> The percentage of patients 18 years of age and older who were diagnosed with a new episode of major depression, treated with antidepressant medication, and who remained on an antidepressant medication treatment.</p>
NQF 0086 PQRI 12	<p><b>Title:</b> Primary Open Angle Glaucoma (POAG): Optic Nerve Evaluation</p> <p><b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of POAG who have been seen for at least two office visits who have an optic nerve head evaluation during one or more office visits within 12 months.</p>
NQF 0088 PQRI 18	<p><b>Title:</b> Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy</p> <p><b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed which included documentation of the level of severity of retinopathy and the presence or absence of macular edema during one or more office visits within 12 months.</p>
NQF 0089 PQRI 19	<p><b>Title:</b> Diabetic Retinopathy: Communication with the Physician Managing Ongoing Diabetes Care</p> <p><b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed with documented communication to the physician who manages the ongoing care of the patient with diabetes mellitus regarding the findings of the macular or fundus exam at least once within 12 months.</p>
NQF 0047 PQRI 53	<p><b>Title:</b> Asthma Pharmacologic Therapy</p> <p><b>Description:</b> Percentage of patients aged 5 through 40 years with a diagnosis of mild, moderate, or severe persistent asthma who were prescribed either the preferred long-term control medication (inhaled corticosteroid) or an acceptable alternative treatment.</p>
NQF 0001 PQRI 64	<p><b>Title:</b> Asthma Assessment</p> <p><b>Description:</b> Percentage of patients aged 5 through 40 years with a diagnosis of asthma and who have been seen for at least 2 office visits, who were evaluated during at least one office visit within 12 months for the frequency (numeric) of daytime and nocturnal asthma symptoms.</p>
NQF 0002 PQRI 66	<p><b>Title:</b> Appropriate Testing for Children with Pharyngitis</p> <p><b>Description:</b> Percentage of children 2-18 years of age who were diagnosed with pharyngitis, dispensed an antibiotic and received a group A streptococcus (strep) test for the episode.</p>
NQF 0387 PQRI 71	<p><b>Title:</b> Oncology Breast Cancer: Hormonal Therapy for Stage IC-IIIC Estrogen Receptor/Progesterone Receptor (ER/PR) Positive Breast Cancer</p> <p><b>Description:</b> Percentage of female patients aged 18 years and older with Stage IC through IIIC, ER or PR positive breast cancer who were prescribed tamoxifen or aromatase inhibitor (AI) during the 12-month reporting period.</p>

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0385 PQRI 72	<p><b>Title:</b> Oncology Colon Cancer: Chemotherapy for Stage III Colon Cancer Patients</p> <p><b>Description:</b> Percentage of patients aged 18 years and older with Stage IIIA through IIIC colon cancer who are referred for adjuvant chemotherapy, prescribed adjuvant chemotherapy, or have previously received adjuvant chemotherapy within the 12-month reporting period.</p>
NQF 0389 PQRI 102	<p><b>Title:</b> Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients</p> <p><b>Description:</b> Percentage of patients, regardless of age, with a diagnosis of prostate cancer at low risk of recurrence receiving interstitial prostate brachytherapy, OR external beam radiotherapy to the prostate, OR radical prostatectomy, OR cryotherapy who did not have a bone scan performed at any time since diagnosis of prostate cancer.</p>
NQF 0027 PQRI 115	<p><b>Title:</b> Smoking and Tobacco Use Cessation, Medical assistance: a. Advising Smokers and Tobacco Users to Quit, b. Discussing Smoking and Tobacco Use Cessation Medications, c. Discussing Smoking and Tobacco Use Cessation Strategies</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were current smokers or tobacco users, who were seen by a practitioner during the measurement year and who received advice to quit smoking or tobacco use or whose practitioner recommended or discussed smoking or tobacco use cessation medications, methods or strategies.</p>
NQF 0055 PQRI 117	<p><b>Title:</b> Diabetes: Eye Exam</p> <p><b>Description:</b> Percentage of patients 18 -75 years of age with diabetes (type 1 or type 2) who had a retinal or dilated eye exam or a negative retinal exam (no evidence of retinopathy) by an eye care professional.</p>
NQF 0062 PQRI 119	<p><b>Title:</b> Diabetes: Urine Screening</p> <p><b>Description:</b> Percentage of patients 18 - 75 years of age with diabetes (type 1 or type 2) who had a nephropathy screening test or evidence of nephropathy.</p>
NQF 0056 PQRI 163	<p><b>Title:</b> Diabetes: Foot Exam</p> <p><b>Description:</b> The percentage of patients aged 18 - 75 years with diabetes (type 1 or type 2) who had a foot exam (visual inspection, sensory exam with monofilament, or pulse exam).</p>
NQF 0074 PQRI 197	<p><b>Title:</b> Coronary Artery Disease (CAD): Drug Therapy for Lowering LDL-Cholesterol</p> <p><b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of CAD who were prescribed a lipid-lowering therapy (based on current ACC/AHA guidelines).</p>
NQF 0084 PQRI 200	<p><b>Title:</b> Heart Failure (HF): Warfarin Therapy Patients with Atrial Fibrillation</p> <p><b>Description:</b> Percentage of all patients aged 18 years and older with a diagnosis of heart failure and paroxysmal or chronic atrial fibrillation who were prescribed warfarin therapy.</p>
NQF 0073 PQRI 201	<p><b>Title:</b> Ischemic Vascular Disease (IVD): Blood Pressure Management</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA) from January 1- November 1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and whose recent blood pressure is in control (&lt;140/90 mmHg).</p>



NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0068 PQRI 204	<p><b>Title:</b> Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA) from January 1-November 1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and who had documentation of use of aspirin or another antithrombotic during the measurement year.</p>
NQF 0004	<p><b>Title:</b> Initiation and Engagement of Alcohol and Other Drug Dependence Treatment: (a) Initiation, (b) Engagement</p> <p><b>Description:</b> The percentage of adolescent and adult patients with a new episode of alcohol and other drug (AOD) dependence who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis and who initiated treatment and who had two or more additional services with an AOD diagnosis within 30 days of the initiation visit.</p>
NQF 0012	<p><b>Title:</b> Prenatal Care: Screening for Human Immunodeficiency Virus (HIV)</p> <p><b>Description:</b> Percentage of patients, regardless of age, who gave birth during a 12-month period who were screened for HIV infection during the first or second prenatal care visit.</p>
NQF 0014	<p><b>Title:</b> Prenatal Care: Anti-D Immune Globulin</p> <p><b>Description:</b> Percentage of D (Rh) negative, unsensitized patients, regardless of age, who gave birth during a 12-month period who received anti-D immune globulin at 26-30 weeks gestation.</p>
NQF 0018	<p><b>Title:</b> Controlling High Blood Pressure</p> <p><b>Description:</b> The percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose BP was adequately controlled during the measurement year</p>
NQF 0032	<p><b>Title:</b> Cervical Cancer Screening</p> <p><b>Description:</b> Percentage of women 21-64 years of age, who received one or more Pap tests to screen for cervical cancer</p>
NQF 0033	<p><b>Title:</b> Chlamydia Screening for Women</p> <p><b>Description:</b> Percentage of women 15- 24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement year.</p>
NQF 0036	<p><b>Title:</b> Use of Appropriate Medications for Asthma <b>Description:</b> Percentage of patients 5 - 50 years of age who were identified as having persistent asthma and were appropriately prescribed medication during the measurement year. Report three age stratifications (5-11 years, 12-50 years, and total).</p>
NQF 0052	<p><b>Title:</b> Low Back Pain: Use of Imaging Studies</p> <p><b>Description:</b> Percentage of patients with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, MRI, CT scan) within 28 days of diagnosis.</p>
NQF 0075	<p><b>Title:</b> Ischemic Vascular Disease (IVD): Complete Lipid Panel and LDL Control</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal angioplasty (PTCA) from January 1-November1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and who had a complete lipid profile performed during the measurement year and whose LDL-C&lt;100 mg/dL.</p>

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0575	<b>Title:</b> Diabetes: Hemoglobin A1c Control (<8.0%) <b>Description:</b> The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had hemoglobin A1c <8.0%.

The Tester will evaluate, to the extent possible given the Vendor-supplied test data used in this test procedure, the calculations of the measures as described by the Vendor.

### **DTR170.304.j – 2: Electronically submit calculated clinical quality measures**

#### Required Vendor Information

- As defined in DTR170.304.j – 1, no additional information is required

#### Required Test Procedure:

- TE170.304.j – 2.01: Using the EHR function(s) identified by the Vendor, the Tester shall submit one or more of the specified CMS clinical quality measures from the DTR170.304.j – 1: Electronically calculate clinical quality measures test
- TE170.304.j – 2.02: Using the NIST-supplied Inspection Test Guide, the Tester shall verify that the clinical quality measures are submitted in conformance with the PQRI standard and implementation specifications referenced in the FR

#### Inspection Test Guide

- IN170.304.j – 2.01: Tester shall visually inspect the submitted PQRI XML document for one or more of the specified CMS clinical quality measures in the tables below and verify that, at a minimum, the following information is present and the data tags are appropriate:
- Submission-period-from-date
  - Submission-period-to-date
  - Submission method
  - Measure group
  - Provider
  - National Provider Identifier
  - PQRI measure
  - PQRI measure number
  - Eligible instances (reporting denominator)
  - Meets performance (performance numerator)
  - Performance exclusion instances
  - Performance not met instances
  - Reporting rate
  - Performance rate

### Specified CMS Core and Alternate Core Clinical Quality Measures for Eligible Professionals

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NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description	Core/Alternate Core Clinical Quality Measure
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NQF 0013	<b>Title:</b> Hypertension: Blood Pressure Measurement <b>Description:</b> Percentage of patient visits for patients aged 18 years and older with a diagnosis of hypertension who have been seen for at least 2 office visits, with blood pressure (BP) recorded.	Core
NQF 0028	<b>Title:</b> Preventive Care and Screening Measure Pair: a. Tobacco Use Assessment, b. Tobacco Cessation Intervention <b>Description:</b> Percentage of patients aged 18 years and older who have been seen for at least 2 office visits who were queried about tobacco use one or more times within 24 months b. Percentage of patients aged 18 years and older identified as tobacco users within the past 24 months and have been seen for at least 2 office visits, who received cessation intervention.	Core
NQF 0041 PQRI 110	<b>Title:</b> Preventive Care and Screening: Influenza Immunization for Patients ≥ 50 Years Old <b>Description:</b> Percentage of patients aged 50 years and older who received an influenza immunization during the flu season (September through February).	Alternate Core
NQF 0024	<b>Title:</b> Weight Assessment and Counseling for Children and Adolescents <b>Description:</b> Percentage of patients 2 -17 years of age who had an outpatient visit with a Primary Care Physician (PCP) or OB/GYN and who had evidence of BMI percentile documentation, counseling for nutrition and counseling for physical activity during the measurement year.	Alternate Core
NQF 0038	<b>Title:</b> Childhood Immunization Status <b>Description:</b> Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio(IPV), one measles, ,mumps and rubella (MMR); two H influenza type B (HiB); three hepatitis B (Hep B); one chicken pox (VZV); four pneumococcal conjugate (PCV); two hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine and nine separate combination rates.	Alternate Core

## Specified CMS Clinical Quality Measures for Eligible Professionals

(excluding Core and Alternate Core Clinical Quality Measures)

Per Department of Health and Human Services, Centers for Medicare & Medicaid Services, 42 CFR Parts 412, 413, 422, and 495, CMS-0033-F, RIN 0938-AP78, Medicare and Medicaid Programs; Electronic Health Record Incentive Program, Final Rule, July 28, 2010.

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
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NQF 0064 PQRI 2	<b>Title:</b> Diabetes: Low Density Lipoprotein (LDL) Management and Control <b>Description:</b> Percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had LDL-C < 100 mg/dL).
NQF 0061 PQRI 3	<b>Title:</b> Diabetes: Blood Pressure Management <b>Description:</b> Percentage of patients 18 - 75 years of age with diabetes (type 1 or type 2) who had blood pressure <140/90 mmHg.
NQF 0081 PQRI 5	<b>Title:</b> Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of heart failure and LVSD (LVEF < 40%) who were prescribed ACE inhibitor or ARB therapy.
NQF 0070 PQRI 7	<b>Title:</b> Coronary Artery Disease (CAD): Beta-Blocker Therapy for CAD Patients with Prior Myocardial Infarction (MI) <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of CAD and prior MI who were prescribed beta-blocker therapy.
NQF 0043 PQRI 111	<b>Title:</b> Pneumonia Vaccination Status for Older Adults <b>Description:</b> Percentage of patients 65 years of age and older who have ever received a pneumococcal vaccine.
NQF 0031 PQRI 112	<b>Title:</b> Breast Cancer Screening <b>Description:</b> Percentage of women 40-69 years of age who had a mammogram to screen for breast cancer.
NQF 0034 PQRI 113	<b>Title:</b> Colorectal Cancer Screening <b>Description:</b> Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer.
NQF 0067 PQRI 6	<b>Title:</b> Coronary Artery Disease (CAD): Oral Antiplatelet Therapy Prescribed for Patients with CAD <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of CAD who were prescribed oral antiplatelet therapy.
NQF 0083 PQRI 8	<b>Title:</b> Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of heart failure who also have LVSD (LVEF < 40%) and who were prescribed beta-blocker therapy.
NQF 0105 PQRI 9	<b>Title:</b> Anti-depressant medication management: (a) Effective Acute Phase Treatment,(b)Effective Continuation Phase Treatment <b>Description:</b> The percentage of patients 18 years of age and older who were diagnosed with a new episode of major depression, treated with antidepressant medication, and who remained on an antidepressant medication treatment.

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0086 PQRI 12	<p><b>Title:</b> Primary Open Angle Glaucoma (POAG): Optic Nerve Evaluation  <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of POAG who have been seen for at least two office visits who have an optic nerve head evaluation during one or more office visits within 12 months.</p>
NQF 0088 PQRI 18	<p><b>Title:</b> Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy  <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed which included documentation of the level of severity of retinopathy and the presence or absence of macular edema during one or more office visits within 12 months.</p>
NQF 0089 PQRI 19	<p><b>Title:</b> Diabetic Retinopathy: Communication with the Physician Managing Ongoing Diabetes Care  <b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed with documented communication to the physician who manages the ongoing care of the patient with diabetes mellitus regarding the findings of the macular or fundus exam at least once within 12 months.</p>
NQF 0047 PQRI 53	<p><b>Title:</b> Asthma Pharmacologic Therapy  <b>Description:</b> Percentage of patients aged 5 through 40 years with a diagnosis of mild, moderate, or severe persistent asthma who were prescribed either the preferred long-term control medication (inhaled corticosteroid) or an acceptable alternative treatment.</p>
NQF 0001 PQRI 64	<p><b>Title:</b> Asthma Assessment  <b>Description:</b> Percentage of patients aged 5 through 40 years with a diagnosis of asthma and who have been seen for at least 2 office visits, who were evaluated during at least one office visit within 12 months for the frequency (numeric) of daytime and nocturnal asthma symptoms.</p>
NQF 0002 PQRI 66	<p><b>Title:</b> Appropriate Testing for Children with Pharyngitis  <b>Description:</b> Percentage of children 2-18 years of age who were diagnosed with pharyngitis, dispensed an antibiotic and received a group A streptococcus (strep) test for the episode.</p>
NQF 0387 PQRI 71	<p><b>Title:</b> Oncology Breast Cancer: Hormonal Therapy for Stage IC-IIIC Estrogen Receptor/Progesterone Receptor (ER/PR) Positive Breast Cancer  <b>Description:</b> Percentage of female patients aged 18 years and older with Stage IC through IIIC, ER or PR positive breast cancer who were prescribed tamoxifen or aromatase inhibitor (AI) during the 12-month reporting period.</p>
NQF 0385 PQRI 72	<p><b>Title:</b> Oncology Colon Cancer: Chemotherapy for Stage III Colon Cancer Patients  <b>Description:</b> Percentage of patients aged 18 years and older with Stage IIIA through IIIC colon cancer who are referred for adjuvant chemotherapy, prescribed adjuvant chemotherapy, or have previously received adjuvant chemotherapy within the 12-month reporting period.</p>

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0389 PQRI 102	<p><b>Title:</b> Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients</p> <p><b>Description:</b> Percentage of patients, regardless of age, with a diagnosis of prostate cancer at low risk of recurrence receiving interstitial prostate brachytherapy, OR external beam radiotherapy to the prostate, OR radical prostatectomy, OR cryotherapy who did not have a bone scan performed at any time since diagnosis of prostate cancer.</p>
NQF 0027 PQRI 115	<p><b>Title:</b> Smoking and Tobacco Use Cessation, Medical assistance: a. Advising Smokers and Tobacco Users to Quit, b. Discussing Smoking and Tobacco Use Cessation Medications, c. Discussing Smoking and Tobacco Use Cessation Strategies</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were current smokers or tobacco users, who were seen by a practitioner during the measurement year and who received advice to quit smoking or tobacco use or whose practitioner recommended or discussed smoking or tobacco use cessation medications, methods or strategies.</p>
NQF 0055 PQRI 117	<p><b>Title:</b> Diabetes: Eye Exam</p> <p><b>Description:</b> Percentage of patients 18 -75 years of age with diabetes (type 1 or type 2) who had a retinal or dilated eye exam or a negative retinal exam (no evidence of retinopathy) by an eye care professional.</p>
NQF 0062 PQRI 119	<p><b>Title:</b> Diabetes: Urine Screening</p> <p><b>Description:</b> Percentage of patients 18 - 75 years of age with diabetes (type 1 or type 2) who had a nephropathy screening test or evidence of nephropathy.</p>
NQF 0056 PQRI 163	<p><b>Title:</b> Diabetes: Foot Exam</p> <p><b>Description:</b> The percentage of patients aged 18 - 75 years with diabetes (type 1 or type 2) who had a foot exam (visual inspection, sensory exam with monofilament, or pulse exam).</p>
NQF 0074 PQRI 197	<p><b>Title:</b> Coronary Artery Disease (CAD): Drug Therapy for Lowering LDL-Cholesterol</p> <p><b>Description:</b> Percentage of patients aged 18 years and older with a diagnosis of CAD who were prescribed a lipid-lowering therapy (based on current ACC/AHA guidelines).</p>
NQF 0084 PQRI 200	<p><b>Title:</b> Heart Failure (HF): Warfarin Therapy Patients with Atrial Fibrillation</p> <p><b>Description:</b> Percentage of all patients aged 18 years and older with a diagnosis of heart failure and paroxysmal or chronic atrial fibrillation who were prescribed warfarin therapy.</p>
NQF 0073 PQRI 201	<p><b>Title:</b> Ischemic Vascular Disease (IVD): Blood Pressure Management</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA) from January 1- November 1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and whose recent blood pressure is in control (&lt;140/90 mmHg).</p>

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0068 PQRI 204	<p><b>Title:</b> Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA) from January 1-November 1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and who had documentation of use of aspirin or another antithrombotic during the measurement year.</p>
NQF 0004	<p><b>Title:</b> Initiation and Engagement of Alcohol and Other Drug Dependence Treatment: (a) Initiation, (b) Engagement</p> <p><b>Description:</b> The percentage of adolescent and adult patients with a new episode of alcohol and other drug (AOD) dependence who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis and who initiated treatment and who had two or more additional services with an AOD diagnosis within 30 days of the initiation visit.</p>
NQF 0012	<p><b>Title:</b> Prenatal Care: Screening for Human Immunodeficiency Virus (HIV)</p> <p><b>Description:</b> Percentage of patients, regardless of age, who gave birth during a 12-month period who were screened for HIV infection during the first or second prenatal care visit.</p>
NQF 0014	<p><b>Title:</b> Prenatal Care: Anti-D Immune Globulin</p> <p><b>Description:</b> Percentage of D (Rh) negative, unsensitized patients, regardless of age, who gave birth during a 12-month period who received anti-D immune globulin at 26-30 weeks gestation.</p>
NQF 0018	<p><b>Title:</b> Controlling High Blood Pressure</p> <p><b>Description:</b> The percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose BP was adequately controlled during the measurement year</p>
NQF 0032	<p><b>Title:</b> Cervical Cancer Screening</p> <p><b>Description:</b> Percentage of women 21-64 years of age, who received one or more Pap tests to screen for cervical cancer</p>
NQF 0033	<p><b>Title:</b> Chlamydia Screening for Women</p> <p><b>Description:</b> Percentage of women 15- 24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement year.</p>
NQF 0036	<p><b>Title:</b> Use of Appropriate Medications for Asthma <b>Description:</b> Percentage of patients 5 - 50 years of age who were identified as having persistent asthma and were appropriately prescribed medication during the measurement year. Report three age stratifications (5-11 years, 12-50 years, and total).</p>
NQF 0052	<p><b>Title:</b> Low Back Pain: Use of Imaging Studies</p> <p><b>Description:</b> Percentage of patients with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, MRI, CT scan) within 28 days of diagnosis.</p>
NQF 0075	<p><b>Title:</b> Ischemic Vascular Disease (IVD): Complete Lipid Panel and LDL Control</p> <p><b>Description:</b> Percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal angioplasty (PTCA) from January 1-November1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and who had a complete lipid profile performed during the measurement year and whose LDL-C&lt;100 mg/dL.</p>

NQF Measure Number & PQRI Implementation Number	Clinical Quality Measure Title & Description
NQF 0575	<b>Title:</b> Diabetes: Hemoglobin A1c Control (<8.0%) <b>Description:</b> The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had hemoglobin A1c <8.0%.

## TEST DATA

This Test Procedure requires the vendor to supply the test data. The Tester shall address the following:

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

## CONFORMANCE TEST TOOLS

An automated test tool to determine the correct calculation of measures is currently under development through an HHS/ONC effort.



## Document History

Version Number	Description	Date Published
0.2	Original draft version	February 26, 2010
1.0	Updated to reflect Final Rule	July 21, 2010
1.0	Updated to remove "Pending" in header	August 13, 2010