

**Clinical Quality Measures for CMS's 2014
EHR Incentive Program for Eligible Hospitals:
Release Notes, April 1, 2013**

04/01/2013

**CLINICAL QUALITY MEASURES FOR CMS'S 2014 EHR INCENTIVE PROGRAM
FOR ELIGIBLE HOSPITALS
RELEASE NOTES**

In August 2012, the Centers for Medicare & Medicaid Services (CMS) finalized the clinical quality measures (CQMs) for the 2014 Medicare and Medicaid Electronic Health Record (EHR) Incentive Program for Eligible Hospitals, also known as Meaningful Use Stage 2 (MU2) for Eligible Hospitals. This list of CQMs for 2014 have been updated based on advances in technology and tools for eMeasure development, comments from stakeholders, changes initiated by measure developers, and CMS's standards as defined in the agency's Measures Management System Blueprint, Version 9 (Blueprint).

CMS recognizes the importance of providing support, training, and information to MU stakeholders, particularly as the EHR Incentive Programs transition to the 2014 measures. The purpose of this document is to inform eligible hospitals and the vendor community about updated program requirements related to the 2014 CQMs. This update includes information about global changes incorporated across all measures as well as specific changes to select measures. Global changes are listed first and include structural modifications; updates to value sets; and data elements and standards revised in accordance with the Blueprint. Specific changes to measures include changes to measure components, such as initial patient populations, denominators, numerators, exclusions, and exceptions, as well as logic changes that affect how data elements interrelate during the measurement period. This document is intended for readers who are familiar with eMeasure components and the current standards for construction an eMeasure. For more information on eMeasures, please visit the CMS website (<http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/ClinicalQualityMeasures.html>)

Please note that this document is to be used in conjunction with the newly published 2014 eCQMs for Eligible Hospitals, published on April 1, 2013 as an update to the eCQMs released on December 21, 2012.

Global Edits

- Versioned the eCQM Version ID Number up by one version for measures incorporating updates.
- Updated the eCQM Header to remove reference to “missing or inaccurate data” collection and reporting for affected measures.
- Updated the eCQM logic to correlate with revisions in the Quality Data Model (QDM) for consistent use of relative timing across measures, occurring, and denominator exclusions.
- Revised eCQM logic to clarify measure intent and consolidate logic sequencing.
- Removed redundant logic and Header statements to reduce confusion and enhance eCQM clarity.
- Updated existing value sets to create harmonization between similar value set concepts across eCQMs.
- Created new Allergy/Intolerance value sets using RxNorm Ingredient and drug formulation concepts for affected eCQMs.
- Incorporated SNOMED CT®, ICD-9, and ICD-10 terminologies in the eCQMs where gaps previously existed.
- Versioned value sets with a new OID when the value set intent (i.e., concept) changed.
- Provided additional guidance to help implementers interpret the calculation requirements for the measures as well as instructional and clarifying notes.

NQF 0142/CMS 100 AMI-2-Aspirin Prescribed at Discharge

- Measure versioned to v2
- Initial Patient Population: removed “admission datetime” attribute from encounter QDM in "Patient Characteristic Birthdate: birth date" >= 18 year(s) starts before start of "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
- Denominator Exclusions: added Aspirin Allergen value set and replaced the medication QDMs in the following phrases,
 - OR: "Medication, Adverse Effects: Aspirin Allergen" starts before or during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Medication, Allergy: Aspirin Allergen" starts before or during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Medication, Intolerance: Aspirin Allergen" starts before or during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
- Denominator Exclusions: removed the “medication active not done” phrases.
 - OR: "Medication, Active not done: Medical Reason" for "Hospital Measures-Aspirin RxNorm Value Set" during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient (discharge datetime)"
 - OR: "Medication, Active not done: Patient Reason" for "Hospital Measures-Aspirin RxNorm Value Set" during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient (discharge datetime)"
- Denominator Exclusions: removed
 - OR: "Medication, Order: Hospital Measures-Aspirin (reason: 'Hospital Measures - Hold')" during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
- Denominator Exclusions: added the “medication discharge not done” phrases.
 - OR: "Medication, Discharge not done: Medical Reason" for "Hospital Measures-Aspirin RxNorm Value Set" during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Medication, Discharge not done: Patient Reason" for "Hospital Measures-Aspirin RxNorm Value Set" during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
- Value sets:
 - Added Aspirin Allergen (2.16.840.1.113883.3.117.1.7.1.139)

NQF 0147/CMS 188 PN-6 Initial Antibiotic Selection for Community-Acquired Pneumonia (CAP) in Immunocompetent Patients

- Measure versioned to v3
- Header Changes:
 - References to transfers from an Emergency Department have been removed from the Guidance Exclusion elements

- The phrase “Removal of “within 24 hours prior to hospital arrival or” has been removed from the Denominator Header section.
 - The phrase “Patients received as a transfer from the emergency/observation department of another hospital” has been removed from the Denominator Exclusion elements.
 - Patient with normal chest x-ray/CT scan added to Denominator Exclusion
 - The phrase “abnormal findings on chest x-ray or CT scan of the chest during the hospitalization” removed from the DenominatorH section
- Change to Denominator Exclusion 1 and 2: Logic statements added:
 - OR: “Diagnosis, Active: Hospital Measures-Prolonged QT Interval” <= 24 hour(s) starts after start of “Occurrence A of Encounter, Performed: Encounter Inpatient”
 - OR: “Intervention, Performed: Hospital Measures-Wound Care”
 - Change to Denominator Exclusion 1: Logic statements eliminated:
 - OR: “Occurrence B of Encounter, Performed: Hospital Measures – Encounter ED”
 - Change to Denominator Exclusion 1 and 2: Logic statements eliminated:
 - OR: “Laboratory Test, Result: Hospital Measures-HIV test”
 - Change to Denominator Exclusion 1 and 2: Moved from the phrase grouping <=24 hour(s) to a higher level “OR” in Both Den 1 and 2
 - OR: “Occurrence A of Encounter, Performed: Encounter Inpatient (length of stay < 24 hour(s))”
 - Change to Denominator Exclusion 1 and 2: Moved from one phrase grouping to another and revised the logic statement

Current logic :

- “OR: Encounter, Performed: Hospital Measures-*Nursing home or extended care facility*”* (italic) moved from the phrase grouping <= 90 days to the phrase grouping <= 24 hours (italic)

Revised logic for phrase grouping <=24 hours:

- OR:
 - OR: "Transfer From: Hospital Measures-Acute care hospital"
 - OR: "Transfer From: Hospital Measures-Ambulatory surgical center"
 - OR: "*Transfer From: Hospital Measures-Nursing Home or Ext Fac Transfer*"
 - < 24 hour(s) starts before start of "*Occurrence A of Encounter, Performed: Encounter Inpatient*"
- Change to Denominator Exclusion 1 and 2: Logic statements condensed and value sets combined:
 - Peritonea/Hemodialysis phrase

Current logic (partial listing of phrase grouping):

- OR: “Procedure, Performed: Peritoneal Dialysis-Procedure”
- OR: “Procedure, Performed: Hemodialysis-Procedure”

Revised logic:

- OR: “Procedure, Performed: Hospital measures-Hemodialysis or peritoneal dialysis”

- Immunocompromised Conditions

Current logic (partial listing of phrase grouping):

- OR: "Diagnosis, Active: Hospital Measures-Leukemia"
- OR: "Diagnosis, Active: Hospital Measures-Neutropenia (severity: 'Hospital Measures-Severe')"
- OR: "Diagnosis, Active: Hospital Measures-Myeloma"
- OR: "Diagnosis, Active: Hospital Measures-Myelodysplasia"
- OR: "Diagnosis, Active: Hospital Measures-Pancytopenia"
- OR: "Diagnosis, Active: Hospital Measures-Lymphoma"
- OR: "Diagnosis, Active: Hospital Measures-Myelogenous leukemia"
- OR: "Diagnosis, Active: Hospital Measures-Lymphocytic leukemia"

Revised logic:

- OR: "Diagnosis, Active: Hospital Measures-Immunocompromised Conditions"

- Immunodeficient Conditions

Current logic: (partial listing of phrase grouping) :

- OR: "Diagnosis, Active: Hospital Measures-AIDS related complex"
- OR: "Diagnosis, Active: Hospital Measures-Congenital or hereditary immunodeficiency"
- OR: "Diagnosis, Active: Hospital Measures-Human immunodeficiency virus"
- OR: "Diagnosis, Active: Hospital Measures-Lymphocytic leukemia"
- OR: "Diagnosis, Active: Hospital Measures-Organ transplant recipient"
- OR: "Diagnosis, Active: Hospital Measures-Acquired immune deficiency syndrome"
- OR: "Diagnosis, Active: Hospital Measures-Chronic lymphocytic leukemia"
- OR: "Diagnosis, Active: Hospital Measures-Immunodeficiency syndrome"

Revised logic:

- OR: "Diagnosis, Active: Hospital Measures-Immunodeficient Conditions"

- Immunocompromised Therapies

Current logic:

- OR: "Procedure, Performed: Hospital Measures-Systemic Chemotherapy"
- Revised logic as follows and includes the added codes for radiation therapy.
- OR: "Procedure, Performed: Hospital Measures-Immunocompromised Therapies"

- Numerator 1 and 2

- The medication grouping logic statements for specific drug regimens were reordered, medication routes revised, and medications added to more closely align with the current measure specifications.
- The following drug regimens were added:
 - Numerator 1: added an additional medication regimen: 4b (ICU)

Logic example:

- AND: "Diagnosis, Active: Hospital Measures- Francisella tularensis or Yersinia pestis " starts during "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location. . .
- AND:
- AND: FIRST:"Medication, Administered: Hospital Measures-IV Tetracycline (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts before start of "Occurrence A of Encounter. . .
- AND:
 - OR:
 - AND: FIRST:"Medication, Administered: Hospital Measures-IV Beta lactams (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts after start of "Occurrence A of Encounter. . .
 - OR:
 - AND: FIRST:"Medication, Administered: Hospital Measures-IV Antipneumococcal/antipseudomonal beta lactams (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts after start of "Occurrence A of Encounter. . .

- Numerator 2 added an additional medication regimen: 2a (NonICU)

Logic Example:

- OR:
 - OR:
 - AND: FIRST:"Medication, Administered: Hospital Measures-IV Tigecycline (route: 'Hospital Measures-Route IV')" <= 1440 minute(s) starts after start of "Occurrence A of Encounter. . .

- Numerator 1 timing change

Current Logic:

- AND: FIRST:"Medication, Administered: Hospital Measures-IV Macrolides ICU (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts before start of "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime, facility location: 'Hospital Measures-Non-ICU Locations')"

Revised Logic:

- AND: FIRST: "Medication, Administered: Hospital Measures-IV Macrolides ICU (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts after start of "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime, facility location: 'Hospital Measures-Non-ICU Locations')"

- Denominator Exclusion 1 and 2:
 - Chest x-ray and CT Scan grouped statements moved from Denominator to Denominator Exclusion
 - We understand that some data elements can be more difficult to capture. After careful review and extensive discussions with the steward, the decision was made to eliminate the logic in regard to a chest x-ray/CT scan finding <=24 before the start of the encounter. The logic regarding a chest x-ray/CT scan finding during the encounter will remain. In addition, because of the difficulty capturing the data element, the logic was moved from the denominator requiring a radiologic finding consistent with pneumonia to a denominator exclusion requiring a radiologic finding of normal.

Logic Example:

Change from:

- OR: "Diagnostic Study, Result: Hospital Measures-Chest xray (result: 'Hospital Measures-Radiological findings consistent with pneumonia')" during "Occurrence A of Encounter, Performed....."

Change to:

- OR: "Diagnostic Study, Result: Hospital Measures-Chest xray SM-CT (result: 'Hospital Measures-Radiological findings normal')" during "Occurrence A of Encounter, Performed....."

- Population 2
 - This is a NonICU population. There are two subsets of patients, those who were directly admitted to a Non-ICU unit, and those that came through the ED, then went to a Non-ICU unit.
 - In the checks for Antimicrobial Medication, Chest Xray, CT Scan, Comfort Measures Only, and the specific drug regimens within 24 hours of arrival, for the patients who came in through the ED, the logic should be examining the start date of the ED Encounter. The logic was Revised to reflect this intent.

Current logic:

- OR:
 - AND: "Medication, Administered: Hospital Measures-IV or PO Antimicrobial Medications (route: 'Hospital measures-Route IV, oral or IM')" <= 24 hour(s) starts after start of "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime, facility location: 'Hospital Measures-Non-ICU Locations')"
 - AND: "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime, facility location: 'Hospital Measures-Non-ICU Locations')" starts after end of "Occurrence A of Encounter, Performed: Hospital Measures - Encounter ED (facility location arrival datetime)"
 - AND: "Diagnosis, Active: Hospital Measures-Presumptive pneumonia" starts during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter ED"

Revised logic: (affected location indicated in italic>:

- OR:
 - AND: "Medication, Administered: Hospital Measures-IV or PO Antimicrobial Medications (route: 'Hospital measures-Route IV, oral or IM')" <= 24 hour(s) starts after start of "Hospital Measures - *Encounter ED* (facility location arrival datetime)"

- AND: "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime, facility location: 'Hospital Measures-Non-ICU Locations')" starts after end of "Occurrence A of Encounter, Performed: Hospital Measures - Encounter ED (facility location arrival datetime)"
 - AND: "Diagnosis, Active: Hospital Measures-Presumptive pneumonia" starts during "Occurrence A of Encounter, Performed: Hospital Measures-Encounter ED"
- Value Set Updates
 - Current Value sets were revised to include additional codes and/or addition of ICD-9, ICD-10, and SNOMED-CT terminologies when appropriate. Grouping value sets were created to group the additional terminologies together, therefore value set OID's attached to measure phrases were revised.
 - Value set content has been updated to reflect current measure specifications including medication value sets .
 - Major value set changes are listed below:
 - Revised value set name to reflect content:
 - Hospital Measures-IV or PO Levofloxacin RxNorm Value Set (2.16.840.1.113883.3.666.5.760)
 - Hospital Measures-IV, IM, or PO Antimicrobial Medications RxNorm Value Set (2.16.840.1.113883.3.666.5.843)
 - Value Set Replacements:
 - Original value set:
 - Hospital Measures-Cystic fibrosis Grouping Value Set (2.16.840.1.113883.3.666.5.682)
 - Replaced with:
 - Cystic Fibrosis Grouping Value Set (2.16.840.1.113883.3.464.1003.102.12.1002)
 - Original value set:
 - Hospital Measures-Presumptive pneumonia ICD-9 Value Set (2.16.840.1.113883.3.666.5.1080)
 - Replaced with:
 - Hospital Measures-Presumptive Pneumonia Grouping Value Set (2.16.840.1.113883.3.666.5.2323)
 - Original value set:
 - Hospital Measures-Respiratory failure acute or chronic SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.673)
 - Replaced with:
 - Hospital Measures-Respiratory failure acute or chronic Grouping Value Set (2.16.840.1.113883.3.666.5.2319)
 - Original value set:
 - Hospital Measures-Respiratory infection SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.1057)

- Replaced with:
 - Hospital Measures-Respiratory infection Grouping Value Set (2.16.840.1.113883.3.666.5.2162)
- Original value set:
 - Hospital Measures-Restrictive lung disease SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.778)
- Replaced with:
 - Hospital Measures-Restrictive lung disease Grouping Value Set (2.16.840.1.113883.3.666.5.2160)
- Original value set:
 - Hospital Measures-Nursing home or extended care facility (2.16.840.1.113883.3.666.5.717)
- Replaced with:
 - Hospital Measures-Nursing Home or Ext Fac Transfer SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.2202)
- Original value set:
 - Hospital Measures-Radiological findings consistent with pneumonia SNOMED-CT Value Set (2.16.840.1.113883.3.666.05.1105)"
 - Replaced with: "Hospital Measures-Radiological findings normal SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.1105)"
- Added Value Sets
 - Cystic Fibrosis Grouping Value Set (2.16.840.1.113883.3.464.1003.102.12.1002)
 - Hospital Measures-Francisella Tularensis or Yersinia pestis Grouping Value Set (2.16.840.1.113883.3.666.5.2205)
 - Hospital measures-Hemodialysis or peritoneal dialysis Grouping Value Set (2.16.840.1.113883.3.666.5.2282)
 - Hospital Measures-Immunocompromised Conditions Grouping Value Set (2.16.840.1.113883.3.666.5.1940)
 - Hospital Measures-Immunocompromised Therapies Grouping Value Set (2.16.840.1.113883.3.666.5.2348)
 - Hospital Measures-Immunodeficient Conditions Grouping Value Set (2.16.840.1.113883.3.666.5.1726)
 - Hospital Measures-Prolonged QT Interval Grouping Value Set (2.16.840.1.113883.3.666.5.2197)
 - Hospital Measures-Wound Care Grouping Value Set (2.16.840.1.113883.3.666.5.2192)
 - Hospital Measures-IV PO AntiPseudomonal Quinolones RxNorm Value Set (2.16.840.1.113883.3.666.5.804)
 - Hospital Measures-IV Tetracycline RxNorm Value Set (2.16.840.1.113883.3.666.5.2204)
 - Hospital Measures-IV Tigecycline RxNorm Value Set (2.16.840.1.113883.3.666.5.2203)

- Value Set updated vocabularies

Value Set update with additional vocabularies are listed below. Other value sets have codes that were updated, including the medication value set.

- Hospital Measures-Septicemia Grouping Value Set (2.16.840.1.113883.3.666.5.672)
- Hospital Measures-Pneumonia Grouping Value Set (2.16.840.1.113883.3.666.5.752)
- Hospital Measures-Bronchiectasis Grouping Value Set (2.16.840.1.113883.3.666.5.773)

- Hospital Measures-Structural lung disease Grouping Value Set (2.16.840.1.113883.3.666.5.774)
 - Hospital Measures-Chronic bronchitis Grouping Value Set (2.16.840.1.113883.3.666.5.775)
 - Hospital Measures-COPD Grouping Value Set (2.16.840.1.113883.3.666.5.776)
 - Hospital Measures-Interstitial lung disease Grouping Value Set (2.16.840.1.113883.3.666.5.777)
 - Hospital Measures-Healthcare associated pneumonia Grouping Value Set (2.16.840.1.113883.3.666.5.783)
 - Hospital Measures-Organ transplant Grouping Value Set (2.16.840.1.113883.3.666.5.801)
- There were Two Encounter, Performed value sets used in this measure, for consistency, there is now one value set used for Encounter, Performed

Current value sets:

- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Hospital Measures-Encounter Inpatient" using "Hospital Measures-Encounter Inpatient SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.625)"

Revised value set

- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.307)"

- There were two Encounter ED value sets used in this measure, for consistency, there is now one value set used for Encounter ED

Current value sets

- "Encounter, Performed: Hospital Measures - Encounter ED" using "Hospital Measures - Encounter ED SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.900)"
- "Encounter, Performed: Hospital Measures-Encounter ED" using "Hospital Measures-Encounter ED SNOMED-CT Value Set (2.16.840.1.113883.3.526.2.900)"

Revised value set

- "Encounter, Performed: Hospital Measures - Encounter ED" using "Hospital Measures - Encounter ED SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.900)"

NQF 0163/CMS 53 AMI-8a- Primary PCI Received Within 90 Minutes of Hospital Arrival

- Measure versioned to v2
- Following measure meta data fields (a.k.a. measure header fields) were updated:
- In the Guidance statement in the header, added “mechanical circulatory assist device placement” and removed “intraaortic balloon pump insertion”.
- In the Denominator Exclusions header statement, added “documented reason for delay in fibrinolytic therapy” and removed “reason for delay documented by a physician/advanced practice nurse/physician assistant (e.g., social, religious, initial concern or refusal, cardiopulmonary arrest, balloon pump insertion, respiratory failure requiring intubation).”

- Denominator: removed " OR: "Occurrence A of Diagnostic Study, Result: Hospital Measures-ECG (result: 'Hospital Measures-ST-segment elevation')""
- Denominator Exclusions: added "OR: "Procedure, Performed: Hospital Measures-Ventricular Assist Device placement" "
- Guidance on clinical trial participant is updated, which reads:

The intent for the exclusion for patients who are clinical trial participants was to be limited to patients participating in a clinical trial for acute myocardial infarction (AMI), ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (non-STEMI), heart attack, or acute coronary syndrome (ACS), the same conditions as covered by the measure. However, the value set specifying clinical trial participation is not limited to a specific type of trial; therefore, this piece of logic will not be included in certification testing or reviewed on audit at this time.

- Value set changes:
 - Added "Hospital Measures-ECG Impression LOINC Value Set (2.16.840.1.113883.3.666.5.3018)" as replacement of "Hospital Measures-ECG Grouping Value Set (2.16.840.1.113883.3.666.5.735)"
 - Added "Hospital Measures-Fibrinolytic Therapy RxNorm Value Set (2.16.840.1.113883.3.666.5.736)"
 - Added "Hospital Measures-LBBB Grouping Value Set (2.16.840.1.113883.3.666.5.3021)"
 - Added "Hospital Measures-Acute or Evolving MI Grouping Value Set (2.16.840.1.113883.3.666.5.3022)"
 - Added "Hospital Measures-Cardiopulmonary arrest SNOMED-CT (2.16.840.1.113883.3.666.5.3020) Value Set"
 - Added "Hospital Measures-LBBB (2.16.840.1.113883.3.666.5.3019) Value Set"
 - Updated "Hospital Measures-AMI ICD-10 Value Set" (2.16.840.1.113883.3.666.5.623) with additional ICD-10 codes
 - Added a new value set "Hospital Measures – AMI" SNOMED-CT Value Set" to the "Hospital Measures – AMI Grouping Value Set (2.16.840.1.113883.3.666.5.3011)"
 - Added a new value set "Hospital Measures-Acute or Evolving MI ICD-9 Value Set" to the "Hospital Measures-Acute or Evolving MI Grouping Value Set" 2.16.840.1.113883.3.666.5.3022
 - Made corrections to "Hospital Measures-Acute or Evolving MI ICD-10 Value Set"
 - Corrected the code system version of "Hospital Measures-AMI ICD-10 Value Set" (2.16.840.1.113883.3.666.5.623)
- Moved the following logics from Denominator Exclusions to Denominator Exceptions:
 - AND NOT: "Occurrence A of Procedure, Performed: Hospital Measures-PCI" <= 90 minute(s) starts after start of FIRST :
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures - Encounter ED" <= 1 day(s) starts before start of "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"

- AND:
 - OR: "Diagnosis, Active: Hospital Measures-Cardiopulmonary arrest"
 - OR: "Procedure, Performed: Hospital Measures-Endotracheal intubation"
 - OR: "Procedure, Performed: Hospital Measures-Aortic balloon pump insertion"
 - OR: "Procedure, Performed not done: Medical Reason" for "Hospital Measures-PCI SNOMED-CT Value Set"
 - OR: "Procedure, Performed not done: Patient Reason" for "Hospital Measures-PCI SNOMED-CT Value Set"
 - OR: "Procedure, Performed: Hospital Measures-Ventricular Assist Device placement"
 - <= 90 minute(s) starts after start of FIRST:
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures - Encounter ED" <= 1 day(s) starts before start of "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"

NQF 0164/CMS 60 AMI-7a- Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival

- Measure versioned to v2
- In the Guidance statement in the header, added “mechanical circulatory assist device placement” and removed “intraaortic balloon pump insertion”.
- Guidance on clinical trial participant updated and reads:

The intent for the exclusion for patients who are clinical trial participants was to be limited to patients participating in a clinical trial for acute myocardial infarction (AMI), ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (non-STEMI), heart attack, or acute coronary syndrome (ACS), the same conditions as covered by the measure. However, the value set specifying clinical trial participation is not limited to a specific type of trial; therefore, this piece of logic will not be included in certification testing or reviewed on audit at this time.

- In the Denominator Exclusions header statement, added “documented reason for delay in fibrinolytic therapy” and removed “reason for delay documented by a physician/advanced practice nurse/physician assistant (e.g., social, religious, initial concern or refusal, cardiopulmonary arrest, balloon pump insertion, respiratory failure requiring intubation).”
- Added “OR: “Procedure, Performed: Hospital Measures-Ventricular Assist Device placement”” to the Denominator Exclusions. New “Hospital Measures-Ventricular Assist Device placement SNOMED-CT Value Set) is created.
- Value set “Hospital Measures-Fibrinolytic Therapy RxNorm Value Set” is updated
- Changed to use “Hospital Measures-ECG Impression LOINC Value Set” instead of the “Hospital Measures-ECG” value set.
- Removed “OR: "Occurrence A of Diagnostic Study, Result: Hospital Measures-ECG (result: 'Hospital Measures-ST-segment elevation')” from the Denominator.
- Value sets
 - "Hospital Measures-LBBB Grouping Value Set (2.16.840.1.113883.3.666.5.3021)"
 - Added "Hospital Measures-LBBB Value Set (2.16.840.1.113883.3.666.5.3019)"

- Added "Hospital Measures-Acute or Evolving MI Grouping Value Set (2.16.840.1.113883.3.666.5.3022)", changed to use this grouping value set in the logic
 - Added "Hospital Measures-Cardiopulmonary arrest SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.3020)", changed to use this grouping value set in the logic
 - Updated "Hospital Measures-AMI ICD-10 Value Set" (2.16.840.1.113883.3.666.5.623) with additional ICD-10 codes
 - Added a new value set "Hospital Measures – AMI" SNOMED-CT Value Set" to the "Hospital Measures – AMI Grouping Value Set (2.16.840.1.113883.3.666.5.3011)"
 - Added a new value set "Hospital Measures-Acute or Evolving MI ICD-9 Value Set" to the "Hospital Measures-Acute or Evolving MI Grouping Value Set" 2.16.840.1.113883.3.666.5.3022
 - Made corrections to "Hospital Measures-Acute or Evolving MI ICD-10 Value Set"
 - Corrected the code system version of "Hospital Measures-AMI ICD-10 Value Set" (2.16.840.1.113883.3.666.5.623)
- Moved the following logics from Denominator Exclusions to Denominator Exceptions:
 - AND NOT: "Occurrence A of Medication, Administered: Hospital Measures-Fibrinolytic Therapy" <= 30 minute(s) starts after start of FIRST :
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures-Encounter ED" <= 1 day(s) starts before start of "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - AND:
 - OR: "Medication, Administered not done: Medical Reason" for "Hospital Measures-Fibrinolytic Therapy RxNorm Value Set"
 - OR: "Medication, Administered not done: Patient Reason" for "Hospital Measures-Fibrinolytic Therapy RxNorm Value Set"
 - OR: "Procedure, Performed: Hospital Measures-Aortic balloon pump insertion"
 - OR: "Procedure, Performed: Hospital Measures-Endotracheal intubation"
 - OR: "Procedure, Performed: Hospital Measures-Ventricular Assist Device placement"
 - OR: "Diagnosis, Active: Hospital Measures-Cardiopulmonary arrest"
 - <= 30 minute(s) starts after start of FIRST:
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"
 - OR: "Occurrence A of Encounter, Performed: Hospital Measures-Encounter ED" <= 1 day(s) starts before start of "Occurrence A of Encounter, Performed: Hospital Measures-Encounter Inpatient"

NQF 0338/CMS 26 Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver

- Measure version v1
- No changes

NQF 0371/CMS 108 VTE-1 Venous Thromboembolism Prophylaxis

- Measure versioned to v2
- Changed "Factor Xa Inhibitor RxNorm Value Set" to "Injectable Factor Xa Inhibitor RxNorm Value Set"
- Added following value sets:
 - "Venous Thromboembolism Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.279)"
 - "Atrial Fibrillation/Flutter Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.202)"
 - "Oral Factor Xa Inhibitor Value Set (2.16.840.1.113883.3.117.1.7.1.134)"
 - Updated the "Unfractionated Heparin RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.218)." Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.
 - Updated the "Obstetrics SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.337)."
 - Updated the "Mental Disorders SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.343)."
- Added following numerator block:
 - OR:
 - AND: "Medication, Administered: Oral Factor Xa Inhibitor" <= 1 day(s) starts after start of "Occurrence A of Encounter, Performed: Inpatient Encounter"
AND:
 - OR: "Diagnosis, Active: Atrial Fibrillation/Flutter" starts before or during "Occurrence A of Encounter, Performed: Inpatient Encounter"
OR: "Diagnosis, Inactive: Atrial Fibrillation/Flutter" starts before start of "Occurrence A of Encounter, Performed: Inpatient Encounter"
OR:
 - OR: "Procedure, Performed: Hip Replacement Surgery"
OR: "Procedure, Performed: Knee Replacement Surgery"
starts before or during "Occurrence A of Encounter, Performed: Inpatient Encounter"
 - OR:
 - OR: "Diagnosis, Active: Venous Thromboembolism"
OR: "Diagnosis, Inactive: Venous Thromboembolism"
 - Starts before start of "Occurrence A of Encounter, Performed: Inpatient Encounter"

NQF 0372/CMS 190 VTE-2 Intensive Care Unit (ICU) Venous Thromboembolism Prophylaxis

- Measure versioned to v2
- Replaced existing logic criteria under the Denominator Exception section to one criterion.
- Changed "Factor Xa Inhibitor RxNorm Value Set" to "Injectable Factor Xa Inhibitor RxNorm Value Set"
- Value set additions:
 - "Venous Thromboembolism Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.279)"
 - "Atrial Fibrillation/Flutter Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.202)"
 - "Oral Factor Xa Inhibitor Value Set (2.16.840.1.113883.3.117.1.7.1.134)"

- Updated the "Unfractionated Heparin RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.218)". Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.
 - Updated the "Obstetrics SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.337)."
- Added following numerator block:
 - OR:
 - AND: "Medication, Administered: Oral Factor Xa Inhibitor" <= 1 day(s) starts after start of "Occurrence A of Encounter, Performed: ICU Admission or Transfer"
AND:
 - OR: "Diagnosis, Active: Atrial Fibrillation/Flutter" starts before or during "Occurrence A of Encounter, Performed: Inpatient Encounter"
OR: "Diagnosis, Inactive: Atrial Fibrillation/Flutter" starts before start of "Occurrence A of Encounter, Performed: Inpatient Encounter"
OR:
 - OR: "Procedure, Performed: Hip Replacement Surgery"
OR: "Procedure, Performed: Knee Replacement Surgery"
starts before or during "Occurrence A of Encounter, Performed: Inpatient Encounter"
 - OR:
 - OR: "Diagnosis, Active: Venous Thromboembolism"
OR: "Diagnosis, Inactive: Venous Thromboembolism"
starts before start of "Occurrence A of Encounter, Performed: Inpatient Encounter"

NQF 0373/CMS 73 VTE-3 Venous Thromboembolism Patients with Overlap of Anticoagulation Therapy

- Measure versioned to v2
- Changed "Medication Order not done: Patient Refusal " to "Medication Discharge not done: Patient Refusal "
- Changed "Medication Order not done: Medical Reason" to "Medication Discharge not done: Medical Reason"
- Added "Medication Administered: Oral Factor Xa Inhibitor" relevant criterion in numerator.
- Value set updates:
 - Added "Oral Factor Xa Inhibitor Value Set (2.16.840.1.113883.3.117.1.7.1.134)" value set.
 - Updated the "Parenteral Anticoagulant RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.266)". Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.

NQF 0374/CMS 109 VTE-4 Patients Unfractionated Heparin (UFH) Dosages/Platelet Count Monitoring by Protocol (or Nomogram) Receiving Unfractionated Heparin (UFH) with Dosages/Platelet Count Monitored by Protocol (or Nomogram)

- Measure versioned to v2
- Denominator statement in the header is updated to “Patients with VTE confirmed through a diagnostic test and receiving IV UFH therapy”
- Removed instances of “Diagnostic Study, Performed: VTE Diagnostic Test” from the Denominator population.
- Value set updates:
 - Updated the "Unfractionated Heparin RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.218)". Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.

NQF 0375/CMS 110 VTE-5 VTE discharge instructions

- Measure versioned to v2
- Added “The educational components are intended as discharge instructions and not as verbal education.” to the Guidance statement in the header.
- Denominator statement in the header is updated to “Patients with VTE confirmed through a diagnostic test and discharged to home or court/law enforcement on warfarin therapy.”
- Denominator Exclusions statement in the header is changed to “None”.
- Removed instances of “Diagnostic Study, Performed: VTE Diagnostic Test” from the Denominator population.

NQF 0376/CMS 114 VTE-6 Incidence of Potentially-Preventable Venous Thromboembolism

- Measure versioned to v2
- Denominator statement in the header is updated to “Patients who developed VTE confirmed by a diagnostic test during hospitalization.”
- “Patients without VTE confirmed by diagnostic testing” was removed from the Denominator Exclusions in the header.
- Removed instances of “Diagnostic Study, Performed: VTE Diagnostic Test” from the Denominator population.
- The instances of “Diagnostic Study, Performed: VTE Diagnostic Test” was changed to “Diagnostic Study, Order: VTE Diagnostic Test” in the Denominator Exclusions.
- Value set updates:
 - Updated the "Unfractionated Heparin RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.218)". Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.
 - “Factor Xa Inhibitor RxNorm Value Set” is renamed to “Injectable Factor Xa Inhibitor RxNorm Value Set”. Value set concepts are updated.
- Logic updates to the Numerator population, which is now:
 - AND NOT:
 - AND: Occurrence A: Diagnostic Study, Order: VTE Diagnostic Test
 - AND:
 - OR: "Medication, Administered: Unfractionated Heparin (route: 'Intravenous route')"
 - OR: "Medication, Administered: Low Molecular Weight Heparin (route: 'Subcutaneous route')"
 - OR: "Medication, Administered: Injectable Factor Xa Inhibitor"
 - OR: "Medication, Administered: Warfarin"

- OR: "Medication, Administered: Oral Factor Xa Inhibitor"
- OR: "Device, Applied: Venous foot pumps (VFP)"
- OR: "Device, Applied: Intermittent pneumatic compression devices (IPC)"
- OR: "Device, Applied: Graduated compression stockings (GCS)"
- >= 1 day(s) starts before start of "Occurrence A: Diagnostic Study, Order: VTE Diagnostic Test"
- during "Occurrence A of Encounter, Performed: Inpatient Encounter"

NQF 0435/CMS 104 Stroke-2 Ischemic stroke – Discharged on Antithrombotic Therapy

- Measure versioned to v2
- Guidance in header: added
The "Non-elective admissions" value set intends to capture all non-scheduled hospitalizations. This value set is a subset of the "Inpatient encounter" value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation." to the Guidance statement in the header.
- Replaced "Inpatient Encounter" in all phrases with "Non-Elective Inpatient Encounter."
- Denominator Exclusions: removed
OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention)'"
- Denominator Exceptions: removed
OR: "Medication, Allergy: Antithrombotic Therapy" starts before or during "Occurrence A of Encounter, Performed: Inpatient Encounter"
- Value set updates:
- Updated the "Antithrombotic Therapy RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.201)". Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.

NQF 0436/CMS 71 Stroke-3 Ischemic stroke – Anticoagulation Therapy for Atrial Fibrillation/Flutter

- Measure versioned to v3
- Added "The "Non-elective admissions" value set intends to capture all non-scheduled hospitalizations. This value set is a subset of the "Inpatient encounter" value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation." to the Guidance statement in the header.
- Changed to use "Non-Elective Inpatient Encounter" instead of "Inpatient Encounter" throughout the measure.
- Removed "OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention)'" from the Denominator Exclusions.
- Removed "OR: "Medication, Allergy: Anticoagulant Therapy" starts before or during "Occurrence A of Encounter, Performed: Inpatient Encounter" from the Denominator Exceptions.
- Value set updates:
 - Changed to use "Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292) instead of the Emergency Department Visit Grouping Value Set.
- Updated the "Anticoagulant Therapy RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.200)". Medications that are in the Oral Factor Xa Inhibitor Value Set are added into the Anticoagulant Therapy RxNorm Value Set. Some of the RxNorm codes are remapped, inactive RxNorm codes are removed.

NQF 0437/CMS 91 Stroke-4 Ischemic stroke – Thrombolytic Therapy

- Measure versioned to v3
- Added “The “Non-elective admissions” value set intends to capture all non-scheduled hospitalizations.

This value set is a subset of the “Inpatient encounter” value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation.” to the Guidance statement in the header.

- Changed to use “Non-Elective Inpatient Encounter” instead of “Inpatient Encounter” throughout the measure.
- Removed “OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention')” from the Denominator Exclusions.
- Changed to use “Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292) instead of the Emergency Department Visit Grouping Value Set.

NQF 0438/CMS 72 Stroke-5 Ischemic stroke – Antithrombotic Therapy by End of Hospital Day Two

- Measure versioned to v2
- Added “The “Non-elective admissions” value set intends to capture all non-scheduled hospitalizations.

This value set is a subset of the “Inpatient encounter” value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation.” to the Guidance statement in the header.

- Changed to use “Non-Elective Inpatient Encounter” instead of “Inpatient Encounter” throughout the measure.
- Removed “OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention')” from the Denominator Exclusions.
- Value set update:
 - Changed to use “Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292) instead of the Emergency Department Visit Grouping Value Set.
 - Updated the "Antithrombotic Therapy RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.201)". Some of the RxNorm codes are remapped. Inactive RxNorm codes are removed.

NQF 0439/CMS 105 Stroke-6 Ischemic stroke – Discharged on Statin Medication

- Measure versioned to v2
- Added “The “Non-elective admissions” value set intends to capture all non-scheduled hospitalizations. This value set is a subset of the “Inpatient encounter” value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation.” to the Guidance statement in the header.
- Value set updates:
 - In the Denominator Exceptions, changed from “Medication, Allergy: Statin” to “Medication, Allergy: Statin Allergen”. Statin Allergen RxNorm Value Set (2.16.840.1.113883.3.117.1.7.1.423) is a new value set.

- In the Denominator Exceptions, changed instances of “Medication, Order not done” to “Medication, discharge not done”.
- Changed to use “Non-Elective Inpatient Encounter” instead of “Inpatient Encounter” throughout the measure.
- Removed “OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention')” from the Denominator Exclusions.
- Changed to use “Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292) instead of the Emergency Department Visit Grouping Value Set.

NQF 0440/CMS107 Stroke-8 Ischemic or Hemorrhagic Stroke – Stroke Education

- Measure versioned to v2
- Guidance in header: added

The “Non-elective admissions” value set intends to capture all non-scheduled hospitalizations. This value set is a subset of the “Inpatient encounter” value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation.” to the Guidance statement in the header.

- Replaced “Inpatient Encounter” in all phrases with “Non-Elective Inpatient Encounter.”
- Denominator Exclusions: removed
 - OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention')"

NQF 0441/CMS 102 Stroke-10 Ischemic or Hemorrhagic Stroke – Assessed for Rehabilitation

- Measure versioned to v2
- Added “The “Non-elective admissions” value set intends to capture all non-scheduled hospitalizations. This value set is a subset of the “Inpatient encounter” value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions, including patients admitted for observation.” to the Guidance statement in the header.
- Changed to use “Non-Elective Inpatient Encounter” instead of “Inpatient Encounter” throughout the measure.
- Removed “OR: "Occurrence A of Encounter, Performed: Inpatient Encounter (reason: 'Carotid Intervention')” from the Denominator Exclusions.
- Value set update:
 - Changed to use “Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292) instead of the Emergency Department Visit Grouping Value Set.

NQF 0453/CMS 178 SCIP-INF-9 Urinary Catheter Removed on Postoperative Day 1 (POD1) or Postoperative Day 2 (POD2) with Day of Surgery Being Day Zero

- Measure versioned to v3
- Metadata updates:
 - Removed the following from guidance in metadata
 - Patients for whom there are missing or inaccurate data (e.g., arrival time, medication administration, etc.) are considered to have failed the measure; the total number of

patients with missing or erroneous (e.g., a time of 03:69 or a date of 10/26/2035) data (i.e., measure failures) must be reported with the results of the measure.

- Removed the following from denominator element guidance in metadata. No longer supported in specification requirements
 - Previous CABG and 'other cardiac surgery' procedures allow exclusion if performed within 4 days before or after the index major surgical procedure. Other major surgical procedures allow exclusion if performed within 3 days before or after the index major surgical procedure.
- Removed the following from exclusion element guidance. No longer supported in specification requirements
 - The original specification for this measure allowed exclusion for patients with pacemaker or implantable defibrillator insertions within 4 days of CABG or other cardiac procedures or 3 days for other surgery.
- Removed the following from General guidance. No longer supported in specification requirements
 - In this measure the code lists that describe types of surgical procedures remain only in ICD-9 or ICD-10 because the concepts that apply are limited to a very specific subset of all surgical procedures.
- Removed the following from denominator exclusions. No longer supported in specification requirements
 - Patients who had other procedures requiring general or spinal anesthesia that occurred within 3 days (4 days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay.
 - Patients who had a suprapubic catheter or had intermittent catheterization preoperatively.
 - Patients who had a urethral catheter, a suprapubic catheter or who were being intermittently catheterized prior to the perioperative period.
- Added the following to the denominator exclusions, new requirement supported in the specification
 - Patients who had a urinary diversion or a urethral catheter or were being intermittently catheterized prior to hospital arrival.

▪ Denominator

- Changes reflect that the catheter was inserted during the inpatient encounter; the surgical procedure could have ended after the catheter was inserted OR the surgical procedure could have ended up to six hours before the catheter was inserted, a SCIP procedure was performed during the encounter, and a SCIP procedure was performed before the end of the inpatient encounter.

Current logic:

- AND: "Initial Patient Population"
- AND: "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (start datetime, anatomical structure: 'Hospital Measures-Urethra')" >= 1 minute(s) starts after start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
- AND: "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure (ordinality: 'Hospital Measures - Principal')" = 0 day(s) ends after end of "Occurrence A of Procedure, Performed: Hospital Measures-Joint Commission Evidence of a surgical procedure requiring general or neuraxial anesthesia"

- AND: "Occurrence A of Procedure, Performed: Hospital Measures-Joint Commission Evidence of a surgical procedure requiring general or neuraxial anesthesia" ends during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- AND:
 - OR: "Occurrence A of Procedure, Performed: Hospital Measures-Joint Commission Evidence of a surgical procedure requiring general or neuraxial anesthesia (stop datetime)" ends after start of "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (start datetime, anatomical structure: 'Hospital Measures-Urethra')"
 - OR: "Occurrence A of Procedure, Performed: Hospital Measures-Joint Commission Evidence of a surgical procedure requiring general or neuraxial anesthesia (stop datetime)" <= 6 hour(s) ends before start of "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (start datetime, anatomical structure: 'Hospital Measures-Urethra')"

Revised logic

- AND: "Initial Patient Population"
- AND: "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (start datetime, anatomical structure: 'Hospital Measures-Urethra')" during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- AND: "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure (ordinality: 'Hospital Measures - Principal')" = 0 day(s) ends after end of "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia"
- AND: "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" ends during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- AND: "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia (start datetime)" >= 1 minute(s) starts after start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
- AND:
 - OR: "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia (stop datetime)" ends after start of "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (start datetime, anatomical structure: 'Hospital Measures-Urethra')"
 - OR: "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia (stop datetime)" <= 6 hour(s) ends before start of "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (start datetime, anatomical structure: 'Hospital Measures-Urethra')"
- Denominator Exclusions
 - Logic removed from denominator exclusions. No longer supported in measure specification.
 - AND:
 - OR: Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device <= 4 day(s) starts before start of Procedure, Performed:

Hospital measures-Other Cardiac Surgery during Occurrence A of Encounter, Performed: Encounter Inpatient

- OR: Procedure, Performed: Hospital Measures – Pacemaker or implantable defibrillator procedure ≤ 4 day(s) starts before start of Procedure, Performed: Hospital measures – CABG during Occurrence A of Encounter, Performed: Encounter Inpatient
- OR: Procedure, Performed: Hospital measures – CABG ≤ 4 day(s) starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Procedure, Performed: Hospital measures – CABG ≤ 4 day(s) starts after end of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Procedure, Performed: Hospital Measures – Pacemaker or implantable defibrillator procedure ≤ 4 day(s) starts before start of Procedure, Performed: Hospital measures – Other Cardiac Surgery during Occurrence A of Encounter, Performed: Encounter Inpatient
- OR: Device, Applied: Hospital measures – Pacemaker or implantable defibrillator device ≤ 3 day(s) starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Procedure, Performed: Hospital Measures – Pacemaker or implantable defibrillator procedure ≤ 4 day(s) starts after end of Procedure, Performed: Hospital measures – Other Cardiac Surgery during Occurrence A of Encounter, Performed: Encounter Inpatient
- OR: Procedure, Performed: Hospital measures – Other Cardiac Surgery ≤ 4 day(s) starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Device, Applied: Hospital measures – Pacemaker or implantable defibrillator device ≤ 3 day(s) starts after end of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Device, Applied: Hospital measures – Pacemaker or implantable defibrillator device ≤ 4 day(s) starts after end of Procedure, Performed: Hospital measures – Other Cardiac Surgery during Occurrence A of Encounter, Performed: Encounter Inpatient
- OR: Procedure, Performed: Hospital Measures – Pacemaker or implantable defibrillator ≤ 4 day(s) starts after end of Procedure, Performed: Hospital measures – CABG during Occurrence A of Encounter, Performed: Encounter Inpatient
- OR: Procedure, Performed: Hospital Measures – Pacemaker or implantable defibrillator procedure ≤ 3 day(s) starts after end of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Procedure, Performed: Hospital Measures – Pacemaker or implantable defibrillator procedure ≤ 3 day(s) starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- OR: Device, Applied: Hospital measures – Pacemaker or implantable defibrillator device ≤ 4 day(s) starts after end of Procedure, Performed: Hospital measures – CABG during Occurrence A of Encounter, Performed: Encounter Inpatient

- OR: Procedure, Performed: Hospital measures – Other Cardiac Surgery <= 4 day(s) starts after end of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
 - OR: Device, Applied: Hospital measures – Pacemaker or implantable defibrillator device <= 4 day(s) starts before start of Procedure, Performed: Hospital measures – CABG during Occurrence A of Encounter, Performed: Encounter Inpatient
 - OR:
 - AND: MOST RECENT: Occurrence B of Procedure, Performed: SCIP Major Surgical Procedure starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
 - AND: Occurrence B of Procedure, Performed: SCIP Major Surgical Procedure <= 3 day(s) starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
 - OR:
 - AND: MOST RECENT: Occurrence B of Procedure, Performed: SCIP Major Surgical Procedure starts before start of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
 - AND: Occurrence B of Procedure, Performed: SCIP Major Surgical Procedure <= 3 day(s) starts after end of Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure
- Updated logic in denominator exclusions
 - AND:
 - OR: "Physical Exam, Finding: Hospital Measures-SCIP urinary diversion" >= 1 minute(s) starts before start of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - OR: "Procedure, Performed: Hospital Measures-SCIP urinary diversion procedures" >= 1 minute(s) starts before start of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - OR: "Intervention, Performed: Hospital Measures-Intermittent Catheterization" >= 1 minute(s) starts before start of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - OR: "Device, Applied: Hospital Measures-Suprapubic catheter" >= 1 minute(s) starts before start of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient" < 2 day(s) ends after end of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure"
 - OR: "Procedure, Performed: Hospital Measures-SCIP Urological/Perineal procedures with potential need of indwelling catheters (ordinality:

'Hospital Measures - Principal')" during "Occurrence A of Encounter, Performed: Encounter Inpatient"

- OR: "Device, Applied: Hospital Measures-Indwelling urinary catheter (anatomical structure: 'Hospital Measures-Urethra')" >= 1 minute(s) starts before start of "Occurrence A of Encounter, Performed: Encounter Inpatient (admission datetime)"
- OR:
 - AND: "Medication, Administered: Hospital Measures-Diuretics RxNorm" <= 2 day(s) starts after end of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - AND: "Encounter, Performed: Encounter Inpatient (facility location: 'Hospital Measures-ICU Locations')" <= 2 day(s) starts after end of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure"
- OR:
 - AND NOT: "Patient Characteristic: Clinical Trial Participant" ends before start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
 - AND: "Patient Characteristic: Clinical Trial Participant" starts before or during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- OR:
 - AND: "Patient Characteristic: Expired" starts after start of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure (ordinality: 'Hospital Measures - Principal', incision datetime)"
 - AND: "Patient Characteristic: Expired" <= 6 hour(s) starts after start of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure (stop datetime)"
- OR:
 - AND NOT: "Occurrence A of Device, Applied: Hospital Measures-Indwelling urinary catheter (removal datetime, anatomical structure: 'Hospital Measures-Urethra')" <= 2 day(s) starts after end of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure"
 - AND: "Device, Applied not done: Medical Reasons" for "Hospital Measures-Indwelling urinary catheter SNOMED-CT Value Set" <= 2 day(s) starts after end of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure"

- Newly added logic in denominator exclusions (new measure requirements)
 - OR:
 - AND: "Medication, Administered: IV Positive Inotropic and Vasopressor Agents" <= 2 day(s) starts after end of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - AND: "Encounter, Performed: Encounter Inpatient (facility location: 'Hospital Measures-ICU Locations')" <= 2 day(s) starts after end of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure"
 - OR:
 - AND: "Medication, Administered: Paralytic Agents" <= 2 day(s) starts after end of ("Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure" during "Occurrence A of Encounter, Performed: Encounter Inpatient")
 - AND: "Encounter, Performed: Encounter Inpatient (facility location: 'Hospital Measures-ICU Locations')" <= 2 day(s) starts after end of "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure"
- Initial Patient Population
 - Updated logic to remove redundancy of attributes (discharge datetime, admission datetime) used in conjunction with the encounterUpdated logic
 - AND: "Occurrence A of Encounter, Performed: Encounter Inpatient" during "Measurement Period"
 - AND: "Occurrence A of Encounter, Performed: Encounter Inpatient (length of stay <= 120 day(s))"
 - AND: "Patient Characteristic Birthdate: birth date" >= 18 year(s) starts before start of "Occurrence A of Encounter, Performed: Encounter Inpatient" AND: "Occurrence A of Encounter, Performed: Encounter Inpatient" during "Measurement Period"
 - AND: "Occurrence A of Encounter, Performed: Encounter Inpatient (length of stay <= 120 day(s))"
 - AND: "Patient Characteristic Birthdate: birth date" >= 18 year(s) starts before start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
 - AND: "Occurrence A of Procedure, Performed: SCIP Major Surgical Procedure (ordinality: 'Hospital Measures - Principal')" = 0 day(s) ends after end of "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia"
 - AND: "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" ends during "Occurrence A of Encounter, Performed: Encounter Inpatient"
 - AND: "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia (start

datetime)" >= 1 minute(s) starts after start of "Occurrence A of Encounter, Performed: Encounter Inpatient

- New Value Sets
 - IV Positive Inotropic and Vasopressor Agents RxNorm Value Set
 - Paralytic Agents RxNorm Value Set
 - Hospital Measures-SCIP urinary diversion procedures Grouping Value Set

NQF 0469/CMS 113 PC-01 Elective Delivery Prior to 39 Completed Weeks Gestation

- Measure versioned to v2
- Initial Patient Population: removed
 - OR: "Diagnosis, Active: Complication Mainly Related to Pregnancy"
 - OR: "Diagnosis, Active: Normal Delivery and Other Indications for Care"
 - OR: "Diagnosis, Active: Complication Mainly in the Course of Labor and Delivery"
 - OR: "Diagnosis, Active: Complication of the Puerperium"
 - OR: "Diagnosis, Active: Outcome of Delivery"
 - Starts during "Occurrence A of Encounter, Performed: Inpatient Encounter"
- Denominator Exclusions: added
 - OR: "Diagnosis, Resolved: Perforation of Uterus"
 - OR: "Diagnosis, Resolved: Uterine Window"
 - OR: "Diagnosis, Resolved: Uterine Rupture"
 - Starts before start of "Occurrence A of Encounter, Performed: Inpatient Encounter"
- Numerator: logical operator correction,

Logic changed from

- AND:
 - OR: "Procedure, Performed: Medical Induction of Labor"
 - OR:
 - OR NOT: "Physical Exam, Finding: Active Labor" starts before start of . . .
 - OR NOT: "Diagnosis, Active: Spontaneous Rupture of Membranes" . . .
 - During "Occurrence A of Encounter, Performed: Inpatient Encounter"

Logic changed to

- AND:
 - OR NOT:
 - OR: "Physical Exam, Finding: Active Labor" starts before start of ...
 - OR: "Diagnosis, Active: Spontaneous Rupture of Membranes" ...
 - OR: "Procedure, Performed: Medical Induction of Labor"
 - During "Occurrence A of Encounter, Performed: Inpatient Encounter"

- Value sets added:
 - Perforation of Uterus SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.136)
 - Uterine Rupture SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.138)
 - Uterine Window SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.137)

NQF 0480/CMS 9 PC-05 Exclusive Breast Milk Feeding

- Measure versioned to v2
- Measure versioned to v2
- Added an alternative measure PC-05a, PC-05a Exclusive Breast Milk Feeding Considering Mothers Choice.
- The Header descriptions of Initial Patient Population, Denominator, Denominator and Exclusions Numerator are updated with the addition of PC-05a. The population criteria is replicated for PC-5a with the only difference in Denominator Exclusions in PC-05a by adding:

OR: "Substance, Administered not done: Parental Refusal" for "Breast Milk SNOMED-CT Value Set" <= 4 hour(s) starts after start of "Occurrence A of Encounter, Performed: Inpatient Encounter"

- Value set added:
 - Parental Refusal SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.133)

NQF 0495/CMS 55 ED-1 Emergency Department Throughput – Median time from ED arrival to ED departure for admitted ED patients

- Measure versioned to v2
- Value set updates:
 - Replaced “Emergency Department Visit Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.293)” with "Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292)."
 - Updated SNOMED-CT codes in “Psychiatric/Mental Health Patient Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.299)”

NQF 0496/CMS 32 ED-3- Median Time from ED Arrival to ED departure for Discharged ED patients

- Measure versioned to v3
- Value set updates:
 - Replaced “Emergency Department Visit Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.293)” with "Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292)"

NQF 0497/CMS 111 ED-2 Emergency Department Throughput – admitted patients – Admit decision time to ED departure time for admitted patients

- Measure versioned to v2
- Value set updates:
 - Replaced “Emergency Department Visit Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.293)” with "Emergency Department Visit SNOMED-CT Value Set (2.16.840.1.113883.3.117.1.7.1.292)"
 - Updated SNOMED-CT codes in “Psychiatric/Mental Health Patient Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.299)”

NQF 0527/CMS 171 SCIP-INF-1 Prophylactic Antibiotic Received within 1 Hour Prior to Surgical Incision

- Measure versioned to v3
- Value set changes:
 - Hospital measures-Pacemaker or implantable defibrillator device ICD-9 Value Set (2.16.840.1.113883.3.666.5.1086) to Hospital measures-Pacemaker or implantable defibrillator device SNOMED Value Set (2.16.840.1.113883.3.666.5.1086)
 - Hospital Measures - Any infection Grouping Value Set (2.16.840.1.113883.3.666.5.696) to Any Infection SCIP Grouping Value Set (2.16.840.1.113883.3.666.5.2256) which contains a new SNOMED value set (2.16.840.1.113883.3.666.5.2257), a new ICD9 value set (2.16.840.1.113883.3.666.5.2258) and a new ICD10 value set (2.16.840.1.113883.3.666.5.2259)
 - Hospital Measures-Infection diagnosis Grouping Value Set (2.16.840.1.113883.3.666.5.695)- added a SNOMED code value set (2.16.840.1.113883.3.666.5.2314) to this grouping value set
 - Hospital Measures-PO Colon and Hysterectomy Antibiotics-Metronidazole RxNorm Value Set (2.16.840.1.113883.3.666.5.1088) –updated RxNorm codes
 - Hospital measures-IV, IM, PO Antimicrobial medications RxNorm Value Set (2.16.840.1.113883.3.666.5.693)-updated RxNorm codes
 - Hospital measures-Abdominal hysterectomy Grouping Value Set (2.16.840.1.113883.3.666.5.710)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2261) to this grouping value set
 - Hospital measures-Caesarean section ICD-9 Value Set (2.16.840.1.113883.3.666.5.711) changed to Hospital Measures-Caesarean Section Grouping Value Set (2.16.840.1.113883.3.666.5.1921) and added a SNOMED code value set (2.16.840.1.113883.3.666.5.2260) and an ICD9 value set (2.16.840.1.113883.3.666.5.711) to this grouping value set
 - Hospital measures- Colon surgery Grouping Value Set (2.16.840.1.113883.3.666.5.705)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2263) to this grouping value set
 - Hospital measures-CABG Grouping Value Set (2.16.840.1.113883.3.666.5.694) – added a SNOMED code value set (2.16.840.1.113883.3.666.5.2262) to this grouping value set
 - Hospital measures-Hip arthroplasty Grouping Value Set (2.16.840.1.113883.3.666.5.703)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2264) to this grouping value set
 - Hospital measures-knee arthroplasty SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.704) changed to Hospital measures-Knee arthroplasty Grouping Value Set (2.16.840.1.113883.3.666.5.1816) and added a SNOMED code value set (2.16.840.1.113883.3.666.5.704), an ICD9 value set (2.16.840.1.113883.3.666.5.1812), and an ICD10 value set (2.16.840.1.113883.3.666.5.1813) to this grouping value set
 - Hospital measures-Other Cardiac Surgery Grouping Value Set (2.16.840.1.113883.3.666.5.701)- added a SNOMED code value set (2.16.840.1.113883.3.666.5.701) to this grouping value set
 - Added Hospital measures-Pacemaker or implantable defibrillator insertion procedure Grouping Value Set (2.16.840.1.113883.3.666.5.1741) and added a SNOMED code value set (2.16.840.1.113883.3.666.5.1087) and an ICD10 value set (2.16.840.1.113883.3.666.5.1744) to this grouping value set
 - Hospital measures-Vaginal hysterectomy Grouping Value Set (2.16.840.1.113883.3.666.5.712)- added a SNOMED code value set (2.16.840.1.113883.3.666.5.2266) to this grouping value set
 - Hospital measures-Vascular surgery Grouping Value Set (2.16.840.1.113883.3.666.5.713)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2267) to this grouping value set
- In the Denominator Exclusion in every population the following logic has been changed to accommodate a new value set which has added codes for the legacy data element “Infection prior to Anesthesia”:
 - AND NOT: "Occurrence A of Diagnosis, Active: Hospital Measures - Any infection" ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime)"

- AND: "Occurrence A of Diagnosis, Active: Hospital Measures - Any infection" >= 1 minute(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime)"

The logic now reads:

- AND NOT: "Occurrence A of Diagnosis, Active: Any Infection SCIP" ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime, ordinality: 'Hospital Measures - Principal')"
- AND: "Occurrence A of Diagnosis, Active: Any Infection SCIP" >= 1 minute(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime, ordinality: 'Hospital Measures - Principal')"

- In Population 7, in the Denominator Exclusions, the following logic has been changed:

- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 3 day(s) starts after start of "Occurrence A of Procedure, Performed: Hospital measures-Other Cardiac Surgery"

The logic now reads:

- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 3 day(s) starts after start of "Occurrence A of Procedure, Performed: Hospital measures-Vaginal hysterectomy"

- In Population 6 (Abdominal hysterectomy) and Population 7 (Vaginal hysterectomy), in the Denominator Exclusions, the following logic has been changed by removing the first phrase which checks if a caesarean section has been performed before the start of the hysterectomy:

- AND: "Occurrence A of Procedure, Performed: Hospital measures-Caesarean section" starts before start of "Occurrence A of Procedure, Performed: Hospital measures-Abdominal hysterectomy (ordinality: 'Hospital Measures - Principal')"
- AND: "Occurrence A of Procedure, Performed: Hospital measures-Caesarean section" during "Occurrence A of Encounter, Performed: Encounter Inpatient"

The logic now reads:

- OR: "Procedure, Performed: Hospital measures-Caesarean section" during "Occurrence A of Encounter, Performed: Encounter Inpatient"

- In all populations, in the Denominator Exclusions, the following logic has been changed to accurately reflect the "Other Surgery" legacy data element requirements which state the Anesthesia End Date of the other surgery is before the Anesthesia Start date of the principal procedure, or the Anesthesia End Date of the principal procedure is before the Anesthesia Start Date of the other surgery:

- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"

- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) starts after start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) starts after start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"

The logic now reads:

- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"

NQF 0528/CMS 172 SCIP-INF-2-Prophylactic Antibiotic Selection for Surgical Patients

- Measure versioned to v3
- The following wording was removed from the Header Guidance and the value sets/code lists now include SNOMED as well:
 - General guidance:

In this measure the code lists that describe types of surgical procedures remain only in ICD-9 or ICD-10 because the concepts that apply are limited to a very specific subset of all surgical procedures.
- Value set changes:
 - Hospital measures-Pacemaker or implantable defibrillator device ICD-9 Value Set (2.16.840.1.113883.3.666.5.1086) to Hospital measures-Pacemaker or implantable defibrillator device SNOMED Value Set (2.16.840.1.113883.3.666.5.1086)

- Hospital Measures - Any infection Grouping Value Set (2.16.840.1.113883.3.666.5.696) to Any Infection SCIP Grouping Value Set (2.16.840.1.113883.3.666.5.2256) which contains a new SNOMED value set (2.16.840.1.113883.3.666.5.2257), a new ICD9 value set (2.16.840.1.113883.3.666.5.2258) and a new ICD10 value set (2.16.840.1.113883.3.666.5.2259)
 - Hospital Measures-Infection diagnosis Grouping Value Set (2.16.840.1.113883.3.666.5.695)- added a SNOMED code value set (2.16.840.1.113883.3.666.5.2314) to this grouping value set
 - Hospital Measures-PO Colon and Hysterectomy Antibiotics-Metronidazole RxNorm Value Set (2.16.840.1.113883.3.666.5.1088) –updated RxNorm codes
 - Hospital measures-IV, IM, PO Antimicrobial medications RxNorm Value Set (2.16.840.1.113883.3.666.5.693)-updated RxNorm codes
 - Hospital measures-Abdominal hysterectomy Grouping Value Set (2.16.840.1.113883.3.666.5.710)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2261) to this grouping value set
 - Hospital measures-Caesarean section ICD-9 Value Set (2.16.840.1.113883.3.666.5.711) changed to Hospital Measures-Caesarean Section Grouping Value Set (2.16.840.1.113883.3.666.5.1921) and added a SNOMED code value set (2.16.840.1.113883.3.666.5.2260) and an ICD9 value set (2.16.840.1.113883.3.666.5.711) to this grouping value set
 - Hospital measures- Colon surgery Grouping Value Set (2.16.840.1.113883.3.666.5.705)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2263) to this grouping value set
 - Hospital measures-CABG Grouping Value Set (2.16.840.1.113883.3.666.5.694) – added a SNOMED code value set (2.16.840.1.113883.3.666.5.2262) to this grouping value set
 - Hospital measures-Hip arthroplasty Grouping Value Set (2.16.840.1.113883.3.666.5.703)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2264) to this grouping value set
 - Hospital measures-knee arthroplasty SNOMED-CT Value Set (2.16.840.1.113883.3.666.5.704) changed to Hospital measures-Knee arthroplasty Grouping Value Set (2.16.840.1.113883.3.666.5.1816) and added a SNOMED code value set (2.16.840.1.113883.3.666.5.704), an ICD9 value set (2.16.840.1.113883.3.666.5.1812), and an ICD10 value set (2.16.840.1.113883.3.666.5.1813) to this grouping value set
 - Hospital measures-Other Cardiac Surgery Grouping Value Set (2.16.840.1.113883.3.666.5.701)- added a SNOMED code value set (2.16.840.1.113883.3.666.5.701) to this grouping value set
 - Added Hospital measures-Pacemaker or implantable defibrillator insertion procedure Grouping Value Set (2.16.840.1.113883.3.666.5.1741) and added a SNOMED code value set (2.16.840.1.113883.3.666.5.1087) and an ICD10 value set (2.16.840.1.113883.3.666.5.1744) to this grouping value set
 - Hospital measures-Vaginal hysterectomy Grouping Value Set (2.16.840.1.113883.3.666.5.712)- added a SNOMED code value set (2.16.840.1.113883.3.666.5.2266) to this grouping value set
 - Hospital measures-Vascular surgery Grouping Value Set (2.16.840.1.113883.3.666.5.713)-added a SNOMED code value set (2.16.840.1.113883.3.666.5.2267) to this grouping value set
 - Hospital Measures-IV Beta lactams RxNorm Value Set (2.16.840.1.113883.3.666.5.770) changed to Hospital Measures-Beta lactams for allergy determination (2.16.840.1.113883.3.666.5.1058)
- Added the following data elements with new value sets:
 - Transfer from: Hospital Measures-Acute Care Hospital OID: 2.16.840.1.113883.3.666.5.684
 - Encounter Performed: Hospital Measures-Acute Care Hospital Encounter OID: 2.16.840.1.113883.3.666.5.2289
 - Attribute: Hospital measures-Request of Physician OID: 2.16.840.1.113883.3.666.5.2254
- In the Denominator Exclusion in every population the following logic has been changed changed to accommodate a new value set which has added codes for the legacy data element “Infection prior to Anesthesia”:

- AND NOT: "Occurrence A of Diagnosis, Active: Hospital Measures - Any infection" ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime)"
- AND: "Occurrence A of Diagnosis, Active: Hospital Measures - Any infection" >= 1 minute(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime)"

The logic now reads:

- AND NOT: "Occurrence A of Diagnosis, Active: Any Infection SCIP" ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime, ordinality: 'Hospital Measures - Principal')"
 - AND: "Occurrence A of Diagnosis, Active: Any Infection SCIP" >= 1 minute(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime, ordinality: 'Hospital Measures - Principal')"
- In the Numerator in every population the following logic was changed to use a new Beta Lactams Allergy/Intolerance value set:
 - AND: "Medication, Allergy: Hospital Measures-IV Beta lactams" starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"

Corrected logic (using new Beta lactams Allergy/Intolerance value set):

- AND: "Medication, Allergy: Hospital Measures-Beta lactams for allergy determination" starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- In the following populations Numerator logic was changed related to Vancomycin administration:
 - CABG
 - Other Cardiac surgery
 - Hip arthroplasty
 - Knee arthroplasty
 - Vascular surgery
 1. Added the following logic to the Numerator clause as justification to give Vancomycin:
 - OR:
 - AND: "Transfer From: Hospital Measures-Acute care hospital"
 - AND: "Encounter, Performed: Hospital measures-Acute care hospital encounter (length of stay >= 3 day(s))"
 - < 24 hour(s) ends before start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
 2. Added the following phrase and changed logic in Numerator to accommodate it:
 - OR: "Medication, Administered: Hospital measures-IV Vancomycin (route: 'Hospital measures-Route IV', reason: 'Hospital measures - Request of physician')"

Previous logic read:

- OR: "Medication, Administered: Hospital Measures-IV Cardiac or Vascular Antibiotics (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime)"
- OR: "Medication, Administered: Hospital Measures-IV Cardiac or Vascular Antibiotics (route: 'Hospital measures-Route IV')" <= 1440 minute(s) starts after end of "Occurrence A of Procedure, Performed: Hospital Measures-Joint Commission Evidence of a surgical procedure requiring general or neuraxial anesthesia"

With addition of the new phrase, revised logic now reads:

- OR:
 - OR: "Medication, Administered: Hospital measures-IV Vancomycin (route: 'Hospital measures-Route IV', reason: 'Hospital measures - Request of physician')"
 - OR: "Medication, Administered: Hospital Measures-IV Cardiac or Vascular Antibiotics (route: 'Hospital measures-Route IV')"
 - <= 1440 minute(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (incision datetime)"
- OR:
 - OR: "Medication, Administered: Hospital measures-IV Vancomycin (route: 'Hospital measures-Route IV', reason: 'Hospital measures - Request of physician')"
 - OR: "Medication, Administered: Hospital Measures-IV Cardiac or Vascular Antibiotics (route: 'Hospital measures-Route IV')"
 - <= 1440 minute(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia"

3. Removed the following logic:

- OR: "Encounter, Performed: Hospital Measures-Nursing home or extended care facility (discharge datetime)" <= 1 year(s) starts before start of "Occurrence A of Encounter, Performed: Encounter Inpatient"

- In Population 7, Vaginal hysterectomy, a value set of "Hospital Measures-Principal" was added to the attribute of ordinality for the following phrase in the Denominator Exclusions:

- OR:
 - AND NOT: "Occurrence A of Diagnosis, Active: Hospital Measures-Infection diagnosis (ordinality: 'Hospital Measures - Principal')" ends before start of "Occurrence A of Procedure, Performed: Hospital measures-Vaginal hysterectomy (incision datetime)"

- In all populations, in the Denominator Exclusions, the following logic has been changed to accurately reflect the "Other Surgery" legacy data element requirements which state the Anesthesia End Date of the other surgery is before the Anesthesia Start date of the principal procedure, or the Anesthesia End Date of the principal procedure is before the Anesthesia Start Date of the other surgery:

- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) starts after start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) starts after start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) starts before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"

The logic now reads:

- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Procedure, Performed: Hospital measures-Joint Commission evidence of a surgical procedure requiring general or neuraxial anesthesia" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG (ordinality: 'Hospital Measures - Principal')"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Device, Applied: Hospital measures-Pacemaker or implantable defibrillator device" <= 4 day(s) ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) starts after end of "Occurrence A of Procedure, Performed: Hospital measures-CABG"
- OR: "Procedure, Performed: Hospital measures-Pacemaker or implantable defibrillator insertion procedure" <= 4 day(s) ends before start of "Occurrence A of Procedure, Performed: Hospital measures-CABG"

▪ Information about Patient expired:

This measure is looking at death during a surgical procedure and in the perioperative period up until 6 hours after the surgery. The patient has not been discharged and will not be in discharge status for many hours based on legal activities related to the death. Many times the OR is shut down until the medical examiner completes the investigation. The actual time of death will be captured in the record but the discharge status may be delayed until the investigation is completed. This may vary by state and we know of no federal statute that defines death as "discharge". Also, the time the patient is removed from the OR is also captured as part of the surgical encounter - a discharged patient would not have a "patient transfer time." With consideration of EHR, it seems more feasible as a characteristic of the patient than a disposition due to the relative timing used to identify the surgical encounter. Based on this, we have maintained consistency in the SCIP measures by defining Patient expired as the QDM data element Patient Characteristic.

NQF 0639/CMS 30 AMI-10 Statin Prescribed at Discharge

- Measure versioned to v3
- The measure metadata was updated to the following:

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- Removed the following requirements from the Denominator Exclusions in the metadata:
 - Patients with LDL less than 100 mg/dL within the first 24 hours after hospital arrival or 30 days prior to hospital arrival and not discharged on a statin
 - Patients with a Reason for Not Prescribing Statin Medication at Discharge
- Added the following requirements to the Denominator Exceptions in the metadata:
 - Patients with LDL less than 100 mg/dL within the first 24 hours after hospital arrival or 30 days prior to hospital arrival and not discharged on a statin
 - Patients with a Reason for Not Prescribing Statin Medication at Discharge
- Removed the following text from the metadata Guidance:
 - Patients for whom there are missing or inaccurate data (e.g., arrival time, medication administration, etc.) are considered to have failed the measure; the total number of patients with missing or erroneous (e.g., a time of 03:69 or a date of 10/26/2035) data (i.e., measure failures) must be reported with the results of the measure.
- Denominator Exclusions changes:
 - In the denominator exclusions, the previous logic read:
 - AND:
 - OR: "Intervention, Performed: Hospital Measures - Comfort Measure Only Intervention" starts during "Occurrence A of Encounter, Performed: Encounter Inpatient"
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Patient Expired')"
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Discharge To Another Hospital')"
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Home Hospice Care')"
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Inpatient Hospice Care')"
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Left Against Medical Advice')"
 - OR:
 - AND NOT: "Medication, Discharge: Statins" during "Occurrence A of Encounter, Performed: Encounter Inpatient"
 - AND:
 - OR: "Laboratory Test, Result: LDL-c (result < 100 mg/dL)" <= 24 hour(s) starts after start of "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime)"

- OR: "Laboratory Test, Result: LDL-c (result < 100 mg/dL)" <= 30 day(s) starts before start of "Occurrence A of Encounter, Performed: Encounter Inpatient (facility location arrival datetime)"
- OR: "Medication, Order not done: Medical Reasons AMI" for "Statins RxNorm Value Set" during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- OR: "Medication, Order not done: Patient Reasons AMI" for "Statins RxNorm Value Set" during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- OR: "Medication, Order not done: System Reasons AMI" for "Statins RxNorm Value Set" during "Occurrence A of Encounter, Performed: Encounter Inpatient"

➤ OR:

- AND NOT: "Occurrence A of Patient Characteristic Clinical Trial Participant: Clinical Trial Participant" ends before start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
- AND: "Occurrence A of Patient Characteristic Clinical Trial Participant: Clinical Trial Participant" starts before or during "Occurrence A of Encounter, Performed: Encounter Inpatient"

- The revised logic (removing requirements now captured in the denominator exceptions) now reads:

- AND:

- OR: "Intervention, Performed: Hospital Measures – Comfort Measure Only Intervention" starts during "Occurrence A of Encounter, Performed: Encounter Inpatient"
- OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Patient Expired')"
- OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Discharge To Another Hospital')"
- OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Home Hospice Care')"
- OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Inpatient Hospice Care')"
- OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Left Against Medical Advice')"
- OR:
 - AND NOT: "Occurrence A of Patient Characteristic Clinical Trial Participant: Clinical Trial Participant" ends before start of "Occurrence A of Encounter, Performed: Encounter Inpatient"
 - AND: "Occurrence A of Patient Characteristic Clinical Trial Participant: Clinical Trial Participant" starts before or during "Occurrence A of Encounter, Performed: Encounter Inpatient"

- Denominator Exceptions changes:

- Added the following logic to the denominator exceptions:

- AND:

- OR: “Laboratory Test, Result: LDL-c (result < 100 mg/dL)” <= 24 hour(s) starts after start of “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Laboratory Test, Result: LDL-c (result < 100 mg/dL)” <= 30 day(s) starts before start of “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Medication, Order not done: Medical Reasons AMI” for “Statins RxNorm Value Set” during “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Medication, Order not done: Patient Reasons AMI” for “Statins RxNorm Value Set” during “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Medication, Order not done: System Reasons AMI” for “Statins RxNorm Value Set” during “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Medication, Discharge not done: Medical Reasons AMI” for “Statins RxNorm Value Set” during “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Medication, Discharge not done: Patient Reasons AMI” for “Statins RxNorm Value Set” during “Occurrence A of Encounter, Performed: Encounter Inpatient”
- OR: “Medication, Discharge not done: System Reasons AMI” for “Statins RxNorm Value Set” during “Occurrence A of Encounter, Performed: Encounter Inpatient”

- Value set changes

- Replaced the following value set:
 - Diagnosis, Active: AMI using AMI Grouping Value Set (2.16.840.1.113883.3.117.1.7.1.833)
- With the new value set:
 - Diagnosis, Active: Hospital Measures – AMI using "Hospital Measures - AMI Grouping Value Set (2.16.840.1.113883.3.666.5.3011)

- Guidance metadata update

Guidance changed from -

- “The exclusion for patients who are clinical trial participants is limited to patients participating in a clinical trial for acute myocardial infarction (AMI), ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (non-STEMI), heart attack, or acute coronary syndrome (ACS), the same conditions as covered by the measure. Other clinical trials are not valid reasons for exclusions.”

Guidance update states:

- The intent for the exclusion for patients who are clinical trial participants was to be limited to patients participating in a clinical trial for acute myocardial infarction (AMI), ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (non-STEMI), heart attack, or acute coronary syndrome (ACS), the same conditions as covered by the measure. However, the value set specifying clinical trial participation is not limited to a specific type of trial; therefore, this piece of logic will not be included in certification testing or reviewed on audit at this time.

NQF 0716/CMS 185 Healthy Term Newborn

- Measure versioned to v2
- Updated the logic to correlate with revisions in the Quality Data Model (QDM) for consistent use of occurring.

Current logic:

- AND NOT:
 - OR: "Encounter, Performed: Encounter Inpatient (discharge status: 'Discharge To Another Hospital')"
 - OR: "Encounter, Performed: Encounter Inpatient (discharge status: 'Neonatal Death SNOMED CT')"starts during "Occurrence A of Encounter, Performed: Encounter Inpatient"

Revised logic:

- AND NOT:
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Discharge To Another Hospital')"
 - OR: "Occurrence A of Encounter, Performed: Encounter Inpatient (discharge status: 'Neonatal Death SNOMED CT')"

NQF 1354/CMS 31 EHDI-1a Hearing screening prior to hospital discharge

- Measure versioned to v2
- Removed the “principal diagnosis” attribute for Livebirth