RESOURCE AND PATIENT MANAGEMENT SYSTEM

Electronic Clinical Quality Measures Engine

(ECQM)

Measure Guidance Manual

Version 5.0
December 2022

Office of Information Technology
Division of Information Technology

Table of Contents

Revision History

Version	Date	Author	Section	Page Number	Summary of Change
2022	10/27/2022	Kelly Samuelson, Christine Zavala, Dr. William Flood	All		Updates to reflect the new CQM measures added with v5 for 2022

1.0 Introduction

Electronic Clinical Quality Measures (eCQM) are standardized metrics that measure and track the quality of health care services that eligible professionals (EP)/eligible clinicians (EC), eligible hospitals (EH), and critical access hospitals (CAH) provide. The 2022 version of eCQM refers to EP/EC as EP. In 2023, the eCQM applications will update the EC references to EP.

The results of the measures are used to calculate a quality score. This process helps to ensure that our health care system is delivering effective, safe, efficient, patient-centered, equitable, and timely care. While the eCQMs are not practice guidelines, they are indicative through measuring positive or negative outcomes of good clinical practices.

eCQM performance rates are used by various governing bodies to evaluate programs and in the case of Centers for Medicare & Medicaid Services (CMS), payments for Medicare services may be affected. eCQMs measure many aspects of patient care, including:

- Patient and Family Engagement
- Patient Safety
- Care Coordination
- Population/Public Health
- Efficient Use of Healthcare Resources
- Clinical Process/Effectiveness

Indian Health Service Resource Patient Management System Certified Electronic Health Record (IHS RPMS-CEHR) generates patient-based files containing the data needed to create CQM reports in standardized format. These are called Quality Reporting Data Architecture (QRDA) Category I (CAT-I) files. The ECQM Engine is a browser-enabled graphical user interface for the Indian Health Service (IHS) which extracts the data from multiple CAT-I files and generates QRDA Category III (CAT-III) aggregated report files which may be submitted to CMS. The ECQM Engine also outputs human-readable reports that can be used in quality improvement activities at individual sites.

eCQMs are tools that help measure and track the quality of health care services that EP, EH, and CAH provide, as generated by a provider's electronic health record (EHR). Health care providers are required to electronically report eCQMs, which use data from EHRs and/or health information technology systems to measure health care quality.

eCQMs are a component of the 2015 Edition Health Information Technology (Health IT) certification criteria necessary for participating in various CMS Programs. RPMS EHR has been updated to meet these expanded criteria.

Each year, CMS makes updates to the eCQMs approved for CMS programs to reflect changes in:

- Evidence-based Medicine
- Code Sets
- Measure Logic

A total of 9 EH/CAH eCQMs and 27 EP eCQMs were selected for inclusion in 2022 based on user input.

Information for hospitals:

The 2022 reporting period for EHs and CAHs requires three self-selected quarters of calendar year (CY) data (increased from two in 2021). In 2023, all four quarters (full year) will be required.

The number of eCQM required for hospitals has not changed for 2022 (four, chosen from a list of available eCQM). However, "Safe Use of Opioids – Concurrent Prescribing" is mandatory for reporting starting in 2022.

Selected EH/CAH eCQM included in the 2015 Certified RPMS EHR (For the 2022 Reporting Period):

> **Note**: The first nine eCQMs are those included by CMS for 2022. Four of these must be chosen by the site. CMS506v4 is mandatory for reporting in 2022.

- CMS9v10 Exclusive Breast Milk Feeding
- CMS71v11 Anticoagulation Therapy for Atrial Fibrillation/Flutter
- CMS72v10 Antithrombotic Therapy By End of Hospital Day 2
- CMS104v10 Discharged on Anti-thrombotic Therapy
- CMS105v10 Discharged on Statin Medication
- CMS108v10 Venous Thromboembolism Prophylaxis
- CMS111v10 Median Admit Decision Time to ED Departure Time for Admitted Patients
- CMS190v10 Intensive Care Unit Venous Thromboembolism Prophylaxis
- CMS506v4 Safe Use of Opioids – Concurrent Prescribing

Information for providers (MIPS, or Merit-based Incentive Payment System):

The 2022 eCQM reporting period for providers (EP) is any continuous 90-day period between January 1, 2022, and December 31, 2022. All participating EPs are required to report on any six eCQMs relevant to their scope of practice from the set of those available within the 2015 Certified EHR.

IHS requested that one retired EP measure, CMS160v7 Depression Utilization of the PHQ-9 Tool, continue to be calculated based on the 2019 measure logic so that sites can track their performance over time for quality improvement.

Selected EP eCQMs included in the 2015 Certified RPMS EHR (For the 2022 Reporting Period):

- CMS2v11 Preventive Care & Screening: Screening for Clinical Depression and Follow-up
- CMS22v10 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented
- CMS50v10 Closing Referral Loop: Receipt of Specialist Report
- CMS69v10 Preventive Care & Screening: Body Mass Index (BMI) Screening and Follow-up
- CMS117v10 Childhood Immunization Status
- CMS122v10 Hemoglobin A1c (HbA1c) Poor Control (>9%)
- CMS124v10 Cervical Cancer Screening
- CMS125v10 Breast Cancer Screening
- CMS127v10 Pneumococcal Vaccination Status for Older Adults
- CMS130v10 Colorectal Cancer Screening
- CMS131v10 Diabetes: Eye Exam
- CMS134v10 Diabetes: Medical Attention for Nephropathy
- CMS137v10 Initiation and Engagement of Alcohol and Other Drug Dependence Treatment
- CMS138v10 Preventive Care & Screening: Tobacco Use: Screening and Cessation Intervention
- CMS139v10 Falls: Screening for Future Fall Risk
- CMS144v10 Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction
- CMS145v10 Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

- CMS147v11 Preventive Care and Screening: Influenza Immunization
- CMS154v10 Appropriate Treatment for Upper Respiratory Infection (URI)
- CMS155v10 Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents
- CMS156v10 Use of High-Risk Medications in Older Adults
- CMS159v10 Depression Remission at Twelve Months
- CMS161v10 Adult Major Depressive Disorder: Suicide Risk Assessment
- CMS165v10 Controlling High Blood Pressure
- CMS177v10 Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment
- CMS347v5 Statin Therapy for the Prevention and Treatment of Cardiovascular Disease
- CMS349v4 HIV Screening

Retired quality measure not included in CMS reporting for 2022 (captured for trending):

- CMS160v7 Depression Utilization of the PHQ-9 Tool

While RPMS EHR offers multiple data entry options, eCQM included in this manual present a limited subset of these options to efficiently capture the required data elements and achieve the highest possible score. Each eCQM is presented in several views.

- A detailed description of each measure from the CMS web site, giving the rationale and logic for each measure.
- The "data entry view." This outlines one data entry process to achieve the best possible outcome. These data entry processes have been tested during development and certification.
- Terminology, a detailed listing of value sets used in the measure, and
- Data Criteria (QDM Data Elements), additional lists of value sets for each measure.

- Value sets are groups of codes including Systematized Nomenclature of Medicine-Clinical Terms (SNOMED-CT), International Classification of Diseases (ICD), RxNORM, CPT (Current Procedural Terminology), HCPCS (Healthcare Common Procedure Coding System), etc., that are approved by CMS for each measure. A value set can contain from one to several hundred codes. Only these codes are counted for the measure. CMS updates these value sets periodically, removing some, adding others. IHS OIT updates the terminology used for eCQM based on these changes and distributes terminology updates. It is important to install these updates to be sure that only active and approved codes are being used. OIT "maps" to these new codes to simplify the workload for individual sites.
- Since the contents of any given Value Set are fluid and change over time, it is not practical to simply list the currently available codes. Instead, it is better if the user logs into the Value Set Authority Center (VSAC), creates an account (free), and searches for the current values within the set. Past value sets are also viewable for troubleshooting purposes. See Appendix A to learn how to view these Value Sets.

There are five appendices attached:

- Appendix A Using the Value Set Authority Center
- Appendix B Using the United States Health Information Knowledgebase
- Appendix C Using the Electronic Clinical Quality Improvement Center
- Appendix D Using Treatment/Regimen/Follow Up in RPMS EHR
- Appendix E Rules of Behavior

2.0 Hospital Measures (For 2022 Reporting Period)

2.1 CMS9v10 Exclusive Breast Milk Feeding

2.1.1 Detail

Description	Exclusive breast milk feeding during the newborn's entire hospitalization. The measure is reported as an overall rate which includes all newborns that were exclusively fed breast milk during the entire hospitalization.
Rationale	Exclusive breast milk feeding for the first 6 months of neonatal life has long been the expressed goal of World Health Organization (WHO), Department of Health and Human Services (DHHS), American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG). ACOG has recently reiterated its position (ACOG, 2007). A recent Cochrane review substantiates the benefits (Kramer & Kakuma, 2002). Much evidence has now focused on the prenatal and intrapartum period as critical for the success of exclusive (or any) BF (Centers for Disease Control and Prevention [CDC], 2007; Petrova, Hegyi, & Mehta, 2007; Shealy et al., 2005; Taveras et al., 2004). Exclusive breast milk feeding rate during birth hospital stay has been calculated by the California Department of Public Health for the last several years using newborn genetic disease testing data. Healthy People 2010 and the CDC have also been active in promoting this goal.
Clinical Recommendation Statement	Exclusive breast milk feeding for the first 6 months of neonatal life can result in numerous long-term health benefits for both mother and newborn and is recommended by a number of national and international organizations. Evidence suggests that the prenatal and intrapartum period is critical for the success of exclusive (or any) breast feeding. Therefore, it is recommended that newborns are fed breast milk only from birth to discharge.
Improvement Notation	Improvement noted as an increase in the rate
Guidance	A discharge to a designated cancer center or children's hospital should be captured as a discharge to an acute care facility. Data shows that the majority of newborns with gestational age 37 weeks or more have a birth weight 3000 grams or more. Birth weight 3000 grams or more is a proxy to capture term newborns without gestational age recorded in EHR system. Only one birth weight value should be recorded. In cases where there is conflicting data, use the document recording the birth weight closest to the time of delivery. If dextrose or glucose 40% gel is given, it is considered a medication not a feeding. This should be reflected as such in the newborn's EHR documentation. This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.

Initial Population	Inpatient hospitalizations for single newborns who were born in the hospital that ends during the measurement period, and with either of the following conditions: – An estimated gestational age at birth of >= 37 weeks – Birth weight >= 3000 grams without an estimated gestational age at birth
Denominator	Initial Population
Denominator Exclusions	Inpatient hospitalizations for newborns who were with any of the following conditions: • Admitted to the Neonatal Intensive Care Unit (NICU) • Transferred to an acute care facility, or other health care facility • Expired during the hospitalization • A length of stay greater than 120 days that ends during the measurement period • A diagnosis of galactosemia • Subject to parenteral nutrition
Numerator	Inpatient hospitalizations for newborns who were fed breast milk only since birth
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.1.2 Data Entry

1. Admit patient to Nursery.
2. Diagnosis “Single Live Birth Born in Hospital.”
3. Gestational Age = or > than 37 weeks (document triage tab, personal health, birth measurements), OR Birth Weight >= 3000 gm (document triage tab, vitals entry or birth measurement).

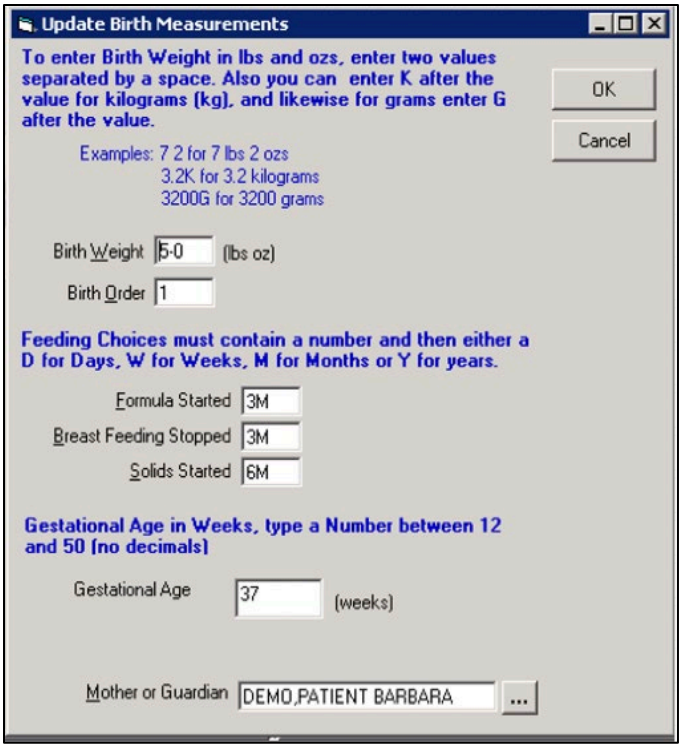


Figure 2-1: Update Birth Measurements

4. Excluded if diagnosis “Galactosemia”, parenteral nutrition, or prolonged length of stay (>120 days).

5. Excluded if admitted to NICU, expires during hospitalization, or transfer to acute care facility.

6. Excluded if Total Parenteral Nutrition is received by Newborn documented via ICD Procedure code **3E0G36Z** in the Visit Services component in the EHR or PCC by coder.

7. Enter Infant Feeding on Triage Tab, “Exclusive Breast Feeding” to include in numerator.

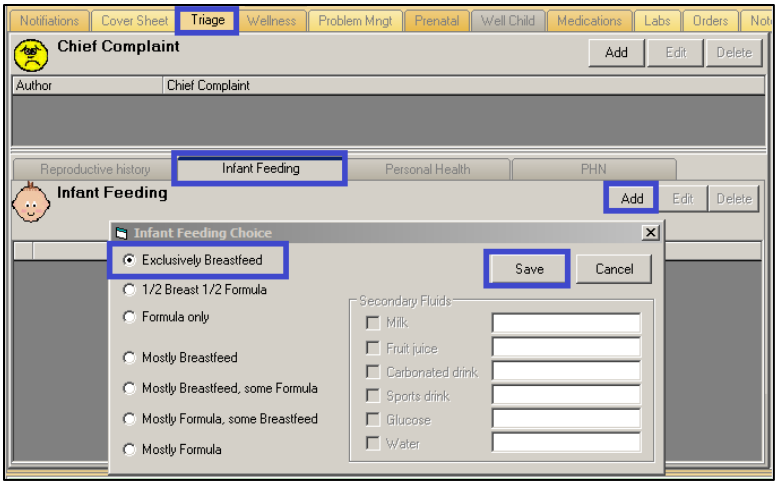


Figure 2-2: Triage tab

2.1.3 Terminology

- code "Gestational age--at birth" ("LOINC Code (76516-4)")
- valueset "Birth Weight" (2.16.840.1.113762.1.4.1029.194)
- valueset "Breast Milk" (2.16.840.1.113883.3.117.1.7.1.30)
- valueset "Dietary Intake Other than Breast Milk" (2.16.840.1.113883.3.117.1.7.1.27)
- valueset "Discharge To Acute Care Facility" (2.16.840.1.113883.3.117.1.7.1.87)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Galactosemia" (2.16.840.1.113883.3.117.1.7.1.35)
- valueset "Intensive Care Unit" (2.16.840.1.113762.1.4.1029.206)
- valueset "Neonatal Intensive Care Unit (NICU)" (2.16.840.1.113762.1.4.1029.205)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Other Health Care Facility" (2.16.840.1.113762.1.4.1029.67)
- valueset "Parenteral Nutrition" (2.16.840.1.113883.3.117.1.7.1.38)
- valueset "Patient Expired" (2.16.840.1.113883.3.117.1.7.1.309)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Single Live Born Newborn Born in Hospital" (2.16.840.1.113883.3.117.1.7.1.26)
- valueset "Total Parenteral Nutrition" (2.16.840.1.113762.1.4.1110.54)

2.1.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Birth Weight" using "Birth Weight (2.16.840.1.113762.1.4.1029.194)"
- "Assessment, Performed: Gestational age--at birth" using "Gestational age--at birth (LOINC Code 76516-4)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Medication, Administered: Total Parenteral Nutrition" using "Total Parenteral Nutrition (2.16.840.1.113762.1.4.1110.54)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Parenteral Nutrition" using "Parenteral Nutrition (2.16.840.1.113883.3.117.1.7.1.38)"
- "Substance, Administered: Breast Milk" using "Breast Milk (2.16.840.1.113883.3.117.1.7.1.30)"
- "Substance, Administered: Dietary Intake Other than Breast Milk" using "Dietary Intake Other than Breast Milk (2.16.840.1.113883.3.117.1.7.1.27)"

2.2 CMS71v11 Anticoagulation Therapy for Atrial Fibrillation/Flutter

2.2.1 Detail

Description	Ischemic stroke patients with atrial fibrillation/flutter who are prescribed or continuing to take anticoagulation therapy at hospital discharge.
Rationale	Nonvalvular atrial fibrillation (NVAF) is a common arrhythmia and an important risk factor for stroke. It is one of several conditions and lifestyle factors that have been identified as risk factors for stroke. It has been estimated that over 2 million adults in the United States have NVAF. While the median age of patients with atrial fibrillation is 75 years, the incidence increases with advancing age. For example, The Framingham Heart Study noted a dramatic increase in stroke risk associated with atrial fibrillation with advancing age, from 1.5% for those 50 to 59 years of age to 23.5% for those 80 to 89 years of age. Furthermore, a prior stroke or transient ischemic attack (TIA) are among a limited number of predictors of high stroke risk within the population of patients with atrial fibrillation. Therefore, much emphasis has been placed on identifying methods for preventing recurrent ischemic stroke as well as preventing first stroke. Prevention strategies focus on the modifiable risk factors such as hypertension, smoking, and atrial fibrillation. Analysis of five placebo-controlled clinical trials investigating the efficacy of warfarin in the primary prevention of thromboembolic stroke, found the relative risk of thromboembolic stroke was reduced by 68% for atrial fibrillation patients treated with warfarin. The administration of anticoagulation therapy, unless there are contraindications, is an established effective strategy in preventing recurrent stroke in high stroke risk-atrial fibrillation patients with TIA or prior stroke.
Clinical Recommendation Statement	The administration of anticoagulation therapy, unless there are contraindications, is an established effective strategy in preventing recurrent stroke in high stroke risk atrial fibrillation patients with TIA or prior stroke.
Improvement Notation	The "Non-elective Inpatient Encounter" 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 Inpatient Encounters include emergency, urgent, and unplanned admissions. The "Medication, Discharge" datatype refers to the discharge medication list and is intended to express medications ordered for post-discharge use. This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.

Guidance	Inpatient hospitalizations for patients age 18 and older, discharged from inpatient care (non-elective admissions) with a principal diagnosis of ischemic or hemorrhagic stroke and a length of stay less than or equal to 120 days that ends during measurement period.
Initial Population	Inpatient hospitalizations for patients with a principal diagnosis of ischemic stroke, and a history of atrial ablation, or current or history of atrial fibrillation/flutter.
Denominator	Inpatient hospitalizations for patients admitted for elective carotid intervention. This exclusion is implicitly modeled by only including non-elective hospitalizations Inpatient hospitalizations for patients discharged to another hospital Inpatient hospitalizations for patients who left against medical advice Inpatient hospitalizations for patients who expired Inpatient hospitalizations for patients discharged to home for hospice care Inpatient hospitalizations for patients discharged to a health care facility for hospice care Inpatient hospitalizations for patients with comfort measures documented
Denominator Exclusions	Inpatient hospitalizations for patients prescribed or continuing to take anticoagulation therapy at hospital discharge.
Numerator	Inpatient hospitalizations for patients with a documented reason for not prescribing anticoagulation therapy at discharge
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.2.2 Data Entry

Description	Ischemic stroke patients with atrial fibrillation/flutter who are prescribed or continuing to take anticoagulation therapy at hospital discharge.

1. Admit patient (non-elective, patient registration), age 18+. Includes observation.

Diagnosis: Principal diagnosis = Ischemic Stroke plus EITHER history of atrial ablation, or current atrial flutter/fibrillation (can enter in PCC post discharge).

Prescribe discharge anticoagulant medication

Value set: 2.16.840.1.113883.3.117.1.7.1.200

Discharge with diagnosis = Ischemic Stroke.

Denominator exclusions:

- Discharge to acute care facility (ADT package, d/c status).
- Left against medical advice (AMA) (ADT package, d/c status).

- Expired (ADT package, type of discharge).
- Discharged to home or healthcare facility for hospice care (ADT package, type of discharge).
- Comfort measures –document in “Palliative Procedures” in IPL/TREG (Edit POV, Add Visit Instructions/Care Plans/Goal Activities, Treatment/Regimen/Follow-up, Palliative Care).

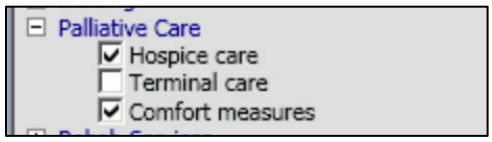


Figure 2-3: Palliative Care list

Denominator Exception:

- Patients who refuse or cannot take anticoagulant medication.
- Document on Wellness tab, personal health, Patient refusals, type = medication, reason contraindicated or refusal of treatment by patient.

Numerator:

- Prescribe anticoagulant, mark as “discharge medication”, finish in pharmacy.

2.2.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "Anticoagulant Therapy" (2.16.840.1.113883.3.117.1.7.1.200)
- valueset "Atrial Ablation" (2.16.840.1.113883.3.117.1.7.1.203)
- valueset "Atrial Fibrillation/Flutter" (2.16.840.1.113883.3.117.1.7.1.202)
- valueset "Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)
- valueset "Discharge To Acute Care Facility" (2.16.840.1.113883.3.117.1.7.1.87)
- valueset "Discharged to Health Care Facility for Hospice Care" (2.16.840.1.113883.3.117.1.7.1.207)
- valueset "Discharged to Home for Hospice Care" (2.16.840.1.113883.3.117.1.7.1.209)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hemorrhagic Stroke" (2.16.840.1.113883.3.117.1.7.1.212)
- valueset "Ischemic Stroke" (2.16.840.1.113883.3.117.1.7.1.247)
- valueset "Left Against Medical Advice" (2.16.840.1.113883.3.117.1.7.1.308)

- valueset "Medical Reason" (2.16.840.1.113883.3.117.1.7.1.473)
- valueset "Non-Elective Inpatient Encounter" (2.16.840.1.113883.3.117.1.7.1.424)
- valueset "Observation Services" (2.16.840.1.113762.1.4.1111.143)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Patient Expired" (2.16.840.1.113883.3.117.1.7.1.309)
- valueset "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)

2.2.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Atrial Fibrillation/Flutter" using "Atrial Fibrillation/Flutter (2.16.840.1.113883.3.117.1.7.1.202)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Non-Elective Inpatient Encounter" using "Non-Elective Inpatient Encounter (2.16.840.1.113883.3.117.1.7.1.424)"
- "Encounter, Performed: Observation Services" using "Observation Services (2.16.840.1.113762.1.4.1111.143)"
- "Intervention, Order: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Medication, Discharge: Anticoagulant Therapy" using "Anticoagulant Therapy (2.16.840.1.113883.3.117.1.7.1.200)"
- "Medication, Not Discharged: Anticoagulant Therapy" using "Anticoagulant Therapy (2.16.840.1.113883.3.117.1.7.1.200)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

- "Procedure, Performed: Atrial Ablation" using "Atrial Ablation (2.16.840.1.113883.3.117.1.7.1.203)"

2.3 CMS72v10 Antithrombotic Therapy End of Hospital Day 2

2.3.1 Detail

Description	Ischemic stroke patients administered antithrombotic therapy by the end of hospital day 2.
Rationale	The effectiveness of antithrombotic agents in reducing stroke mortality, stroke-related morbidity and recurrence rates has been studied in several large clinical trials. While the use of these agents for patients with acute ischemic stroke and transient ischemic attacks continues to be the subject of study, substantial evidence is available from completed studies. Data at this time suggest that antithrombotic therapy should be administered within 2 days of symptom onset in acute ischemic stroke patients to reduce stroke mortality and morbidity as long as no contraindications exist. Anticoagulants at doses to prevent venous thromboembolism are insufficient antithrombotic therapy to prevent recurrent ischemic stroke or TIA.
Clinical Recommendation Statement	Antithrombotic therapy should be administered within 2 days of symptom onset in acute ischemic stroke patients to reduce stroke mortality and morbidity as long as no contraindications exist.
Guidance	The "Non-elective Inpatient Encounter" 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 Inpatient Encounters include emergency, urgent, and unplanned admissions. NPO (Nothing by mouth) is not a valid reason for not administering antithrombotic therapy by end of hospital day 2 as another route of administration can be used (i.e. rectal or intravenous). In the denominator exclusions, the intent is to only exclude patients with a total length of stay of <2 days, including ED visit (if there is one). For the eCQM we model both of the scenarios of admission via the ED as well as direct admits. This statement addresses direct admits. This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.
Initial Population	Inpatient hospitalization for patients age 18 and older discharged from inpatient care (non-elective admissions) with a principal diagnosis of ischemic or hemorrhagic stroke and a length of stay less than or equal to 120 days that ends during measurement period
Denominator	Inpatient hospitalizations for patients with a principal diagnosis of ischemic stroke

Denominator Exclusions	Inpatient hospitalizations for patients who have a duration of stay less than 2 days. Inpatient hospitalization for patients with comfort measures documented day of or the day after arrival. Inpatient hospitalization for patients with intra-venous or intra-arterial Thrombolytic (t-PA) Therapy administered within 24 hours prior to arrival or anytime during hospitalization.
Numerator	Inpatient hospitalization for patients who had antithrombotic therapy administered the day of or day after hospital arrival
Denominator Exceptions	Inpatient hospitalization for patients with a documented reason for not administering antithrombotic therapy the day of or day after hospital arrival. Inpatient hospitalization for patients who receive Ticagrelor or Prasugrel as an antithrombotic therapy the day of or day after hospital arrival. Inpatient hospitalization for patients with an INR greater than 3.5.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.3.2 Data Entry

Description	Ischemic stroke patients administered antithrombotic therapy by the end of hospital day 2.

1. Admit patient, age over 18, diagnosis “Ischemic Stroke.” Includes observation.
2. Duration of hospitalization (including ER) over 2 days and less than 120 days (admission from ER within one hour of ER Discharge).
3. Excludes patients with documented “comfort measures” on admission or day 1 (document hospice care on IPL/TREG).

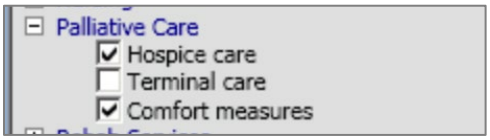


Figure 2-4: Palliative Care list

4. Exclude patients who received thrombolytic therapy during hospital stay or within 24 hours before admission. Documented by med order or POV “IV infusion of thrombolytic.”
5. Exclude patients with INR>3.5 (INR Value set: 2.16.840.1.113883.3.117.1.7.1.213)
6. Document administration of antithrombotic medication (Value Set 2.16.840.1.113883.3.117.1.7.1.201) during first two days of admission (order med, finish in pharmacy, administer with BCMA); use the Stroke Tool.

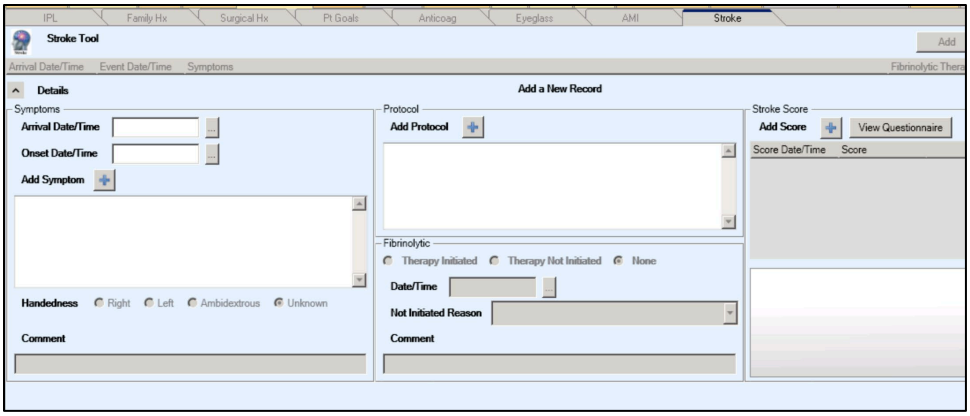


Figure 2-5: Stroke Tool

7. Discharge dx = Ischemic stroke.

2.3.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "Antithrombotic Therapy" (2.16.840.1.113762.1.4.1110.62)
- valueset "Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hemorrhagic Stroke" (2.16.840.1.113883.3.117.1.7.1.212)
- valueset "INR" (2.16.840.1.113883.3.117.1.7.1.213)
- valueset "Intravenous or Intra arterial Thrombolytic (tPA) Therapy Prior to Arrival" (2.16.840.1.113762.1.4.1110.21)
- valueset "Intravenous or Intra-arterial Thrombolytic (t-PA) Therapy" (2.16.840.1.113762.1.4.1045.21)
- valueset "Ischemic Stroke" (2.16.840.1.113883.3.117.1.7.1.247)
- valueset "Medical Reason" (2.16.840.1.113883.3.117.1.7.1.473)
- valueset "Non-Elective Inpatient Encounter" (2.16.840.1.113883.3.117.1.7.1.424)
- valueset "Observation Services" (2.16.840.1.113762.1.4.1111.143)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pharmacological Contraindications For Antithrombotic Therapy" (2.16.840.1.113762.1.4.1110.52)

- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Thrombolytic (t-PA) Therapy" (2.16.840.1.113883.3.117.1.7.1.226)

2.3.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Intravenous or Intra arterial Thrombolytic (tPA) Therapy Prior to Arrival" using "Intravenous or Intra arterial Thrombolytic (tPA) Therapy Prior to Arrival (2.16.840.1.113762.1.4.1110.21)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Non-Elective Inpatient Encounter" using "Non-Elective Inpatient Encounter (2.16.840.1.113883.3.117.1.7.1.424)"
- "Encounter, Performed: Observation Services" using "Observation Services (2.16.840.1.113762.1.4.1111.143)"
- "Intervention, Order: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Laboratory Test, Performed: INR" using "INR (2.16.840.1.113883.3.117.1.7.1.213)"
- "Medication, Administered: Antithrombotic Therapy" using "Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.62)"
- "Medication, Administered: Pharmacological Contraindications For Antithrombotic Therapy" using "Pharmacological Contraindications For Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.52)"
- "Medication, Administered: Thrombolytic (t-PA) Therapy" using "Thrombolytic (t-PA) Therapy (2.16.840.1.113883.3.117.1.7.1.226)"
- "Medication, Not Administered: Antithrombotic Therapy" using "Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.62)"
- "Medication, Not Ordered: Antithrombotic Therapy" using "Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.62)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"

- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Intravenous or Intra-arterial Thrombolytic (t-PA) Therapy" using "Intravenous or Intra-arterial Thrombolytic (t-PA) Therapy (2.16.840.1.113762.1.4.1045.21)"

2.4 CMS104v10 Discharged on Antithrombotic Therapy

2.4.1 Detail

Description	Ischemic stroke patients prescribed or continuing to take antithrombotic therapy at hospital discharge.
Rationale	The effectiveness of antithrombotic agents in reducing stroke mortality, stroke-related morbidity and recurrence rates has been studied in several large clinical trials. While the use of these agents for patients with acute ischemic stroke and transient ischemic attacks continues to be the subject of study, substantial evidence is available from completed studies. Data at this time suggest that antithrombotic therapy should be prescribed at discharge following acute ischemic stroke to reduce stroke mortality and morbidity as long as no contraindications exist. For patients with a stroke due to a cardioembolic source (e.g. atrial fibrillation, mechanical heart valve), warfarin is recommended unless contraindicated. In recent years, novel oral anticoagulant agents (NOACs) have been developed and approved by the U.S. Food and Drug Administration (FDA) for stroke prevention and may be considered as an alternative to warfarin for select patients. Anticoagulation therapy is not generally recommended for secondary stroke prevention in patients presumed to have a non-cardioembolic stroke. Anticoagulants at doses to prevent venous thromboembolism are insufficient antithrombotic therapy to prevent recurrent ischemic stroke or TIA.
Clinical Recommendation Statement	Clinical trial results suggest that antithrombotic therapy should be prescribed at discharge following acute ischemic stroke to reduce stroke mortality and morbidity as long as no contraindications exist.
Guidance	The "Non-elective Inpatient Encounter" 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. The "Medication, Discharge" datatype refers to the discharge medication list and is intended to express medications ordered for post-discharge use. This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.

Initial Population	Inpatient hospitalizations for patients age 18 and older, discharged from inpatient care (non-elective admissions) with a principal diagnosis of ischemic or hemorrhagic stroke and a length of stay less than or equal to 120 days that ends during the measurement period
Denominator	Inpatient hospitalizations for patients with a principal diagnosis of Ischemic stroke.
Denominator Exclusions	Inpatient hospitalizations for patients admitted for elective carotid intervention. This exclusion is implicitly modeled by only including non-elective hospitalizations. Inpatient hospitalizations for patients discharged to another hospital Inpatient hospitalizations for patients who left against medical advice Inpatient hospitalizations for patients who expired Inpatient hospitalizations for patients discharged to home for hospice care Inpatient hospitalizations for patients discharged to a health care facility for hospice care Inpatient hospitalizations for patients with comfort measures documented
Numerator	Inpatient hospitalizations for patients prescribed or continuing to take antithrombotic therapy at hospital discharge
Numerator Exclusions	Not Applicable.
Denominator Exceptions	Inpatient hospitalizations for patients with a documented reason for not prescribing antithrombotic therapy at discharge. Inpatient hospitalizations for patients who receive Ticagrelor or Prasugrel as an antithrombotic therapy at discharge.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.4.2 Data Entry

Description	Ischemic stroke patients prescribed or continuing to take antithrombotic therapy at hospital discharge.

1. Admit (non-elective), age over 18, diagnosis = Ischemic Stroke. Includes observation services (Value set: 2.16.840.1.113762.1.4.1111.14).

2. Excludes patients with documented comfort measures (IPL/TREG).

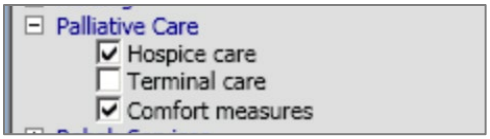


Figure 2-6: Palliative Care list

3. Excludes patients discharged to acute care facility (ADT package, d/c), patient expires, left AMA, or discharged for hospice care (home or facility).

4. Exceptions for patients who refuse antithrombotic (patient refusal or medical contraindication), enter in Personal Health Component, medication.

5. Numerator requires prescription for antithrombotic medication (list found in Value Set: 2.16.840.1.113883.3.117.1.7.1.201, see Appendix A) during hospitalization, marked as “discharge medication”).

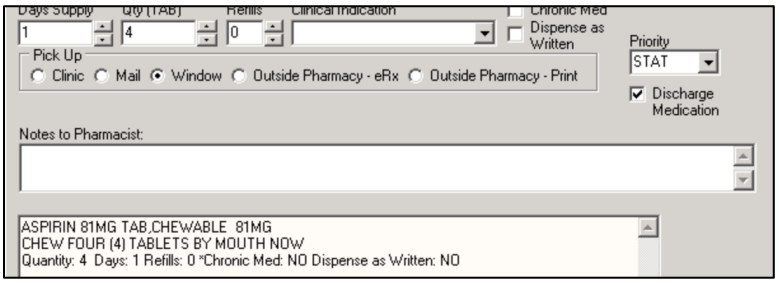


Figure 2-7: Discharge Medication

2.4.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "Antithrombotic Therapy" (2.16.840.1.113762.1.4.1110.62)
- valueset "Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)
- valueset "Discharge To Acute Care Facility" (2.16.840.1.113883.3.117.1.7.1.87)
- valueset "Discharged to Health Care Facility for Hospice Care" (2.16.840.1.113883.3.117.1.7.1.207)
- valueset "Discharged to Home for Hospice Care" (2.16.840.1.113883.3.117.1.7.1.209)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hemorrhagic Stroke" (2.16.840.1.113883.3.117.1.7.1.212)
- valueset "Ischemic Stroke" (2.16.840.1.113883.3.117.1.7.1.247)
- valueset "Left Against Medical Advice" (2.16.840.1.113883.3.117.1.7.1.308)

- valueset "Medical Reason" (2.16.840.1.113883.3.117.1.7.1.473)
- valueset "Non-Elective Inpatient Encounter" (2.16.840.1.113883.3.117.1.7.1.424)
- valueset "Observation Services" (2.16.840.1.113762.1.4.1111.143)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Patient Expired" (2.16.840.1.113883.3.117.1.7.1.309)
- valueset "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pharmacological Contraindications For Antithrombotic Therapy" (2.16.840.1.113762.1.4.1110.52)
- valueset "Race" (2.16.840.1.114222.4.11.836)

2.4.4 Data Criteria (QDM Data Elements)

- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Non-Elective Inpatient Encounter" using "Non-Elective Inpatient Encounter (2.16.840.1.113883.3.117.1.7.1.424)"
- "Encounter, Performed: Observation Services" using "Observation Services (2.16.840.1.113762.1.4.1111.143)"
- "Intervention, Order: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Medication, Discharge: Antithrombotic Therapy" using "Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.62)"
- "Medication, Discharge: Pharmacological Contraindications For Antithrombotic Therapy" using "Pharmacological Contraindications For Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.52)"
- "Medication, Not Discharged: Antithrombotic Therapy" using "Antithrombotic Therapy (2.16.840.1.113762.1.4.1110.62)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"

- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

2.5 CMS105v10 Discharged on Statin Medication

2.5.1 Detail

Description	Ischemic stroke patients who are prescribed or continuing to take statin medication at hospital discharge.
Rationale	There is an extensive and consistent body of evidence supporting the use of statins for secondary prevention in patients with clinically evident atherosclerotic cardiovascular disease (ASCVD), which includes individuals with ischemic stroke due to large artery atherosclerosis, individuals with ischemic stroke due to intrinsic small vessel disease, and individuals with ischemic stroke not directly due to atherosclerosis but with clinically evident atherosclerotic disease in an uninvolved cerebral or noncerebral bed. Both women and men with clinical ASCVD are at increased risk for recurrent ASCVD and ASCVD death. High-intensity statin therapy should be initiated or continued as first-line therapy in women and men less than or equal to 75 years of age who have clinical ASCVD, unless contraindicated. In patients with clinical ASCVD and a contraindication to high-intensity statin therapy, moderate-intensity therapy should be considered as an alternative if it can be tolerated. In individuals greater than 75 years of age, the potential for ASCVD risk reduction benefits, adverse effects, drug-drug interactions, and patient preferences should be considered, and statin therapy individualized based on these considerations (Stone, 2013).
Guidance	The "Non-elective Inpatient Encounter" 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 Inpatient Encounters include emergency, urgent, and unplanned admissions. The "Medication, Discharge" datatype refers to the discharge medication list and is intended to express medications ordered for post-discharge use. This eCQM is an episode-based measure.
Clinical Recommendation Statement	For patients with stroke of atherosclerotic origin, intensive lipid lowering therapy with statins should be initiated.
Initial Population	Inpatient hospitalizations for patients age 18 and older, discharged from inpatient care (non-elective admissions) with a principal diagnosis of ischemic or hemorrhagic stroke and a length of stay less than or equal to 120 days that ends during measurement period
Denomintor	Inpatient hospitalizations for patients with a principal diagnosis of ischemic stroke

Denominator Exclusions	Inpatient hospitalizations for patients admitted for elective carotid intervention. This exclusion is implicitly modeled by only including non-elective hospitalizations. Inpatient hospitalizations for patients discharged to another hospital Inpatient hospitalizations for patients who left against medical advice Inpatient hospitalizations for patients who expired Inpatient hospitalizations for patients discharged to home for hospice care Inpatient hospitalizations for patients discharged to a health care facility for hospice care Inpatient hospitalizations for patients with comfort measures documented
Numerator	Inpatient hospitalizations for patients prescribed or continuing to take statin medication at hospital discharge
Numerator Exclusions	Not Applicable.
Denominator Exceptions	Inpatient hospitalizations for patients with a reason for not prescribing statin medication at discharge Inpatient hospitalizations for patients with a maximum LDL-c result of less than 70 mg/dL <= 30 days prior to arrival or any time during the hospital stay Inpatient hospitalizations for patients with a statin allergy
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.5.2 Data Entry

Description	Ischemic stroke patients who are prescribed or continuing to take statin medication at hospital discharge.

1. Admit (non-elective), patient over 18, diagnosis = Ischemic Stroke, discharged within measurement period.
2. Includes observation services (Value set: 2.16.840.1.113762.1.4.1111.143).
3. Denominator exception: Allergy to statin (enter allergy in EHR); Refusal (refusal of treatment by patient or contraindicated)(enter personal health, refusals, medication); or LDL-C < 70 within 30 days of hospitalization;
4. Denominator exclusion:
   - Patients with comfort measures documented (document in IPL/TREG):

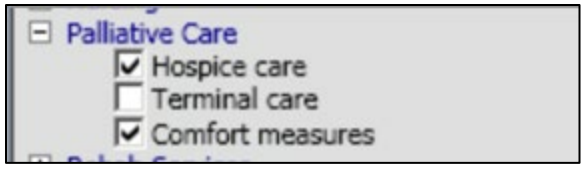


Figure 2-8: Palliative Care list

- Patients who expire during hospitalization, discharged to another hospital, left AMA, discharged for hospice care (home or facility).

5. Numerator: Order statin (2.16.840.1.113762.1.4.1110.19), mark as **Discharge Medication**.

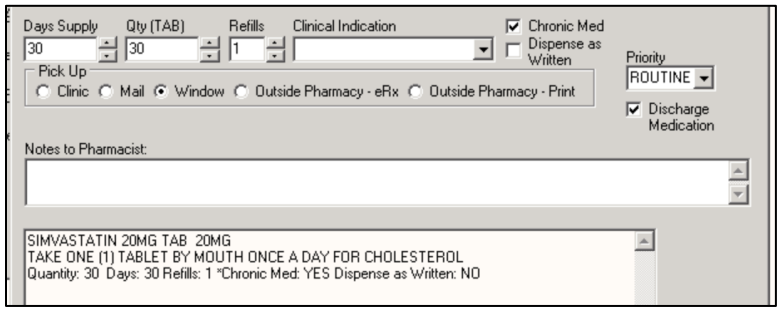


Figure 2-9: Discharge Medication

2.5.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)
- valueset "Discharge To Acute Care Facility" (2.16.840.1.113883.3.117.1.7.1.87)
- valueset "Discharged to Health Care Facility for Hospice Care" (2.16.840.1.113883.3.117.1.7.1.207)
- valueset "Discharged to Home for Hospice Care" (2.16.840.1.113883.3.117.1.7.1.209)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hemorrhagic Stroke" (2.16.840.1.113883.3.117.1.7.1.212)
- valueset "Ischemic Stroke" (2.16.840.1.113883.3.117.1.7.1.247)
- valueset "LDL-c" (2.16.840.1.113883.3.117.1.7.1.215)
- valueset "Left Against Medical Advice" (2.16.840.1.113883.3.117.1.7.1.308)
- valueset "Medical Reason" (2.16.840.1.113883.3.117.1.7.1.473)
- valueset "Non-Elective Inpatient Encounter" (2.16.840.1.113883.3.117.1.7.1.424)

- valueset "Observation Services" (2.16.840.1.113762.1.4.1111.143)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Patient Expired" (2.16.840.1.113883.3.117.1.7.1.309)
- valueset "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Statin Allergen" (2.16.840.1.113762.1.4.1110.42)
- valueset "Statin Grouper" (2.16.840.1.113762.1.4.1110.19)

2.5.4 Data Criteria (QDM Data Elements)

- "Allergy/Intolerance: Statin Allergen" using "Statin Allergen (2.16.840.1.113762.1.4.1110.42)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Non-Elective Inpatient Encounter" using "Non-Elective Inpatient Encounter (2.16.840.1.113883.3.117.1.7.1.424)"
- "Encounter, Performed: Observation Services" using "Observation Services (2.16.840.1.113762.1.4.1111.143)"
- "Intervention, Order: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Laboratory Test, Performed: LDL-c" using "LDL-c (2.16.840.1.113883.3.117.1.7.1.215)"
- "Medication, Discharge: Statin Grouper" using "Statin Grouper (2.16.840.1.113762.1.4.1110.19)"
- "Medication, Not Discharged: Statin Grouper" using "Statin Grouper (2.16.840.1.113762.1.4.1110.19)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"

- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

2.6 CMS108v10 Venous Thromboembolism Prophylaxis

2.6.1 Detail

Description	This measure assesses the number of patients who received Venous Thromboembolism (VTE) prophylaxis or have documentation why no VTE prophylaxis was given between the day of arrival to the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission.
Rationale	Hospitalized patients at high-risk for VTE may develop an asymptomatic deep vein thrombosis (DVT) and die from pulmonary embolism (PE) even before the diagnosis is suspected. The majority of fatal events occur as sudden or abrupt death, underscoring the importance of prevention as the most critical action step for reducing death from PE (Geerts et al., 2008). The estimated annual incidence of deep-vein thrombosis (DVT) and pulmonary embolism (PE), known collectively as venous thromboembolism (VTE), is approximately 900,000 (Geerts et al., 2008). Approximately two-thirds of cases of DVT or PE are associated with recent hospitalization. This is consistent with the 2001 report by The Agency for Healthcare Research and Quality (AHRQ). AHRQ indicates that "the appropriate application of effective preventive measures in hospitals has major potential for improving patient safety by reducing the incidence of venous thromboembolism" (Shojania et al., 2001). Despite its proven effectiveness, rates of appropriate thromboprophylaxis remain low in both medical and surgical patients. A recent analysis from the ENDORSE survey, which evaluated prophylaxis rates in 17,084 major surgery patients, found that more than one third of patients at risk for VTE (38%) did not receive prophylaxis and that rates varied by surgery type (Cohen et al., 2008). In a review of evidence-based patient safety practices, the Agency for Healthcare Research and Quality defined thromboprophylaxis against VTE as the "number one patient safety practice" for hospitalized patients (Shojania et al., 2001). Updated "safe practices" published by the National Quality Forum (NQF) recommend routine evaluation of hospitalized patients for risk of VTE and use of appropriate prophylaxis (National Quality Forum, 2006). As noted by the ACCP, a vast number of randomized clinical trials provide irrefutable evidence that thromboprophylaxis reduces VTE events, and there are studies that have also shown that fatal PE is prevented by thromboprophylaxis (Geerts et al., 2008). Some select surgeries have previously been monitored in the Surgical Care Improvement Project; since performance on these surgeries has achieved very high levels, they are not included in this measure.

Clinical Recommendation Statement	Failure to recognize and protect patients at risk for venous thromboembolism (VTE) increases the chances for acutely ill hospitalized patients at high risk for developing a deep vein thrombosis or dying from a pulmonary embolism. Screening all patients is the only evidence-based practice in reducing incidence of disease. All hospitalized patients should be evaluated for primary VTE prophylaxis and given appropriate prophylaxis when indicated.
Guidance	When low dose unfractionated heparin is administered for VTE Prophylaxis, the intended administration route for low dose unfractionated heparin is subcutaneous. Reasons for no pharmacological and no mechanical VTE prophylaxis must be explicitly documented by the MD/APN/PA or pharmacist and linked with VTE prophylaxis. Ambulation alone is not a sufficient reason for not administering VTE prophylaxis. In order for ambulation/patient ambulating to be considered as an acceptable reason, there needs to be explicit documentation, e.g., "patient out of bed and ambulating in halls - no VTE prophylaxis needed." This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.
Initial Population	Inpatient hospitalizations for patients age 18 and older, discharged from hospital inpatient acute care without a diagnosis of venous thromboembolism (VTE) or obstetrics with a length of stay less than or equal to 120 days that ends during the measurement period.
Denominator	Initial population.
Denominator Exclusions	• Inpatient hospitalizations for patients who have a length of stay less than 2 days • Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after hospital admission • Inpatient hospitalizations for patients with comfort measures documented by the day after surgery end date for surgeries that start the day of or the day after hospital admission • Inpatient hospitalizations for patients who are direct admits to intensive care unit (ICU), or transferred to ICU the day of or the day after hospital admission with ICU length of stay greater than or equal to one day • Inpatient hospitalizations for patients with a principal diagnosis of mental disorders or stroke • Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Numerator	Inpatient hospitalizations for patients who received VTE prophylaxis: – Between the day of arrival and the day after hospital admission – The day of or the day after surgery end date for surgeries that end the day of or the day after hospital admission Inpatient hospitalizations for patients who have documentation of a reason why no VTE prophylaxis was given: – Between the day of arrival and the day after hospital admission – The day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission)
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.6.2 Data Entry

Description	This measure assesses the number of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission.

Denominator

- Hospital (not ICU) admission, non-elective, patient 18+.
- Include observation.
- Discharged within measurement period, LOS <120 days.
- No diagnosis on admission of VTE OR Obstetrics.

Denominator exclusions:

- LOS <2 days.
- Comfort measures documented between arrival and day after admission or surgery.

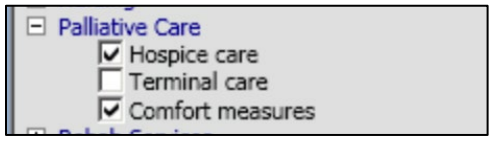


Figure 2-10: Palliative Care list

- Direct admit to ICU or transfer to ICU day of admission or next day.
- LOS ≥1 day

- Principal diagnosis of stroke or mental disorder. See Appendix A for information on using Value Sets (Value Set 2.16.840.1.113883.3.117.1.7.1.212 – Hemorrhagic Stroke) or (Value Set 2.16.840.1.113883.3.117.1.7.1.247 – Ischemic Stroke) or (Value Set 2.16.840.1.113883.3.464.1003.105.12.1004 – Mental Health Diagnosis)
- Principal diagnosis of selected surgeries:
  - General Surgery
  - Gyn Surgery
  - Hip Fracture Surgery
  - Hip Replacement Surgery
  - Intracranial Neurosurgery
  - Knee Replacement Surgery
  - Urologic Surgery

Numerator:

- Patients who received VTE prophylaxis within 1 day of admission:
  - Low dose unfractionated heparin
  - Low molecular weight heparin
  - Injectable Factor Xa inhibitor
  - Warfarin
  - Intermittent pneumatic compression devices(IPL/TREG/Anticoag DVT Prevention)
  - Venous foot pumps (TREG/Anticoag DVT Prevention)
  - Graduated compression stockings (TREG/Anticoag DVT Prevention)

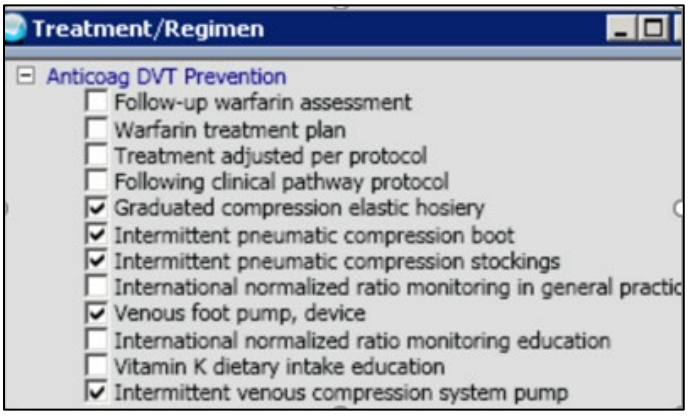


Figure 2-11: Treatment/Regimen list

OR:

- Oral Factor Xa Inhibitor given

  - AND prior or present diagnosis of AF or VTE
  - OR Present or Prior Knee or Hip Replacement
- Patients with documentation of a reason no VTE prophylaxis given due to medical reason or patient refusal
- Patient with Low risk for VTE or anticoagulant administered
- Low risk assessment score
- INR >3.0
- On medication:
  - Direct thrombin inhibitor
  - Unfractionated heparin
  - Glycoprotein IIB/IIA inhibitors
  - Patient refusal (Personal history, refusal of treatment by patient)
  - Medical reason (Personal history, refusal, Complication of medical treatment)

2.6.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Risk for venous thromboembolism" ("LOINC Code (72136-5)")
- valueset "Atrial Fibrillation/Flutter" (2.16.840.1.113883.3.117.1.7.1.202)
- valueset "Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)
- valueset "Direct Thrombin Inhibitor" (2.16.840.1.113883.3.117.1.7.1.205)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "General or Neuraxial Anesthesia" (2.16.840.1.113883.3.666.5.1743)
- valueset "General Surgery" (2.16.840.1.113883.3.117.1.7.1.255)
- valueset "Glycoprotein IIb/IIIa Inhibitors" (2.16.840.1.113762.1.4.1045.41)
- valueset "Graduated compression stockings (GCS)" (2.16.840.1.113883.3.117.1.7.1.256)
- valueset "Gynecological Surgery" (2.16.840.1.113883.3.117.1.7.1.257)
- valueset "Hemorrhagic Stroke" (2.16.840.1.113883.3.117.1.7.1.212)
- valueset "Hip Fracture Surgery" (2.16.840.1.113883.3.117.1.7.1.258)
- valueset "Hip Replacement Surgery" (2.16.840.1.113883.3.117.1.7.1.259)

- valueset "Injectable Factor Xa Inhibitor for VTE Prophylaxis" (2.16.840.1.113883.3.117.1.7.1.211)
- valueset "INR" (2.16.840.1.113883.3.117.1.7.1.213)
- valueset "Intensive Care Unit" (2.16.840.1.113762.1.4.1029.206)
- valueset "Intermittent pneumatic compression devices (IPC)" (2.16.840.1.113883.3.117.1.7.1.214)
- valueset "Intracranial Neurosurgery" (2.16.840.1.113883.3.117.1.7.1.260)
- valueset "Intravenous route" (2.16.840.1.113883.3.117.1.7.1.222)
- valueset "Ischemic Stroke" (2.16.840.1.113883.3.117.1.7.1.247)
- valueset "Knee Replacement Surgery" (2.16.840.1.113883.3.117.1.7.1.261)
- valueset "Low Dose Unfractionated Heparin for VTE Prophylaxis" (2.16.840.1.113762.1.4.1045.39)
- valueset "Low Molecular Weight Heparin for VTE Prophylaxis" (2.16.840.1.113883.3.117.1.7.1.219)
- valueset "Low Risk" (2.16.840.1.113883.3.117.1.7.1.400)
- valueset "Medical Reason" (2.16.840.1.113883.3.117.1.7.1.473)
- valueset "Mental Health Diagnoses" (2.16.840.1.113883.3.464.1003.105.12.1004)
- valueset "Observation Services" (2.16.840.1.113762.1.4.1111.143)
- valueset "Obstetrics" (2.16.840.1.113883.3.117.1.7.1.263)
- valueset "Obstetrics VTE" (2.16.840.1.113883.3.117.1.7.1.264)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment" (2.16.840.1.113883.3.117.1.7.1.134)
- valueset "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Rivaroxaban for VTE Prophylaxis" (2.16.840.1.113762.1.4.1110.50)
- valueset "Subcutaneous route" (2.16.840.1.113883.3.117.1.7.1.223)
- valueset "Unfractionated Heparin" (2.16.840.1.113883.3.117.1.7.1.218)
- valueset "Urological Surgery" (2.16.840.1.113883.3.117.1.7.1.272)
- valueset "Venous foot pumps (VFP)" (2.16.840.1.113883.3.117.1.7.1.230)
- valueset "Venous Thromboembolism" (2.16.840.1.113883.3.117.1.7.1.279)

- valueset "Warfarin" (2.16.840.1.113883.3.117.1.7.1.232)

2.6.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Risk for venous thromboembolism" using "Risk for venous thromboembolism (LOINC Code 72136-5)"
- "Device, Applied: Graduated compression stockings (GCS)" using "Graduated compression stockings (GCS) (2.16.840.1.113883.3.117.1.7.1.256)"
- "Device, Applied: Intermittent pneumatic compression devices (IPC)" using "Intermittent pneumatic compression devices (IPC) (2.16.840.1.113883.3.117.1.7.1.214)"
- "Device, Applied: Venous foot pumps (VFP)" using "Venous foot pumps (VFP) (2.16.840.1.113883.3.117.1.7.1.230)"
- "Device, Not Applied: Graduated compression stockings (GCS)" using "Graduated compression stockings (GCS) (2.16.840.1.113883.3.117.1.7.1.256)"
- "Device, Not Applied: Intermittent pneumatic compression devices (IPC)" using "Intermittent pneumatic compression devices (IPC) (2.16.840.1.113883.3.117.1.7.1.214)"
- "Device, Not Applied: Venous foot pumps (VFP)" using "Venous foot pumps (VFP) (2.16.840.1.113883.3.117.1.7.1.230)"
- "Device, Not Ordered: Graduated compression stockings (GCS)" using "Graduated compression stockings (GCS) (2.16.840.1.113883.3.117.1.7.1.256)"
- "Device, Not Ordered: Intermittent pneumatic compression devices (IPC)" using "Intermittent pneumatic compression devices (IPC) (2.16.840.1.113883.3.117.1.7.1.214)"
- "Device, Not Ordered: Venous foot pumps (VFP)" using "Venous foot pumps (VFP) (2.16.840.1.113883.3.117.1.7.1.230)"
- "Diagnosis: Atrial Fibrillation/Flutter" using "Atrial Fibrillation/Flutter (2.16.840.1.113883.3.117.1.7.1.202)"
- "Diagnosis: Venous Thromboembolism" using "Venous Thromboembolism (2.16.840.1.113883.3.117.1.7.1.279)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Observation Services" using "Observation Services (2.16.840.1.113762.1.4.1111.143)"

- "Intervention, Order: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Laboratory Test, Performed: INR" using "INR (2.16.840.1.113883.3.117.1.7.1.213)"
- "Medication, Administered: Direct Thrombin Inhibitor" using "Direct Thrombin Inhibitor (2.16.840.1.113883.3.117.1.7.1.205)"
- "Medication, Administered: Glycoprotein IIb/IIIa Inhibitors" using "Glycoprotein IIb/IIIa Inhibitors (2.16.840.1.113762.1.4.1045.41)"
- "Medication, Administered: Injectable Factor Xa Inhibitor for VTE Prophylaxis" using "Injectable Factor Xa Inhibitor for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.211)"
- "Medication, Administered: Low Dose Unfractionated Heparin for VTE Prophylaxis" using "Low Dose Unfractionated Heparin for VTE Prophylaxis (2.16.840.1.113762.1.4.1045.39)"
- "Medication, Administered: Low Molecular Weight Heparin for VTE Prophylaxis" using "Low Molecular Weight Heparin for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.219)"
- "Medication, Administered: Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment" using "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment (2.16.840.1.113883.3.117.1.7.1.134)"
- "Medication, Administered: Rivaroxaban for VTE Prophylaxis" using "Rivaroxaban for VTE Prophylaxis (2.16.840.1.113762.1.4.1110.50)"
- "Medication, Administered: Unfractionated Heparin" using "Unfractionated Heparin (2.16.840.1.113883.3.117.1.7.1.218)"
- "Medication, Administered: Warfarin" using "Warfarin (2.16.840.1.113883.3.117.1.7.1.232)"
- "Medication, Not Administered: Injectable Factor Xa Inhibitor for VTE Prophylaxis" using "Injectable Factor Xa Inhibitor for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.211)"
- "Medication, Not Administered: Low Dose Unfractionated Heparin for VTE Prophylaxis" using "Low Dose Unfractionated Heparin for VTE Prophylaxis (2.16.840.1.113762.1.4.1045.39)"
- "Medication, Not Administered: Low Molecular Weight Heparin for VTE Prophylaxis" using "Low Molecular Weight Heparin for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.219)"

- "Medication, Not Administered: Rivaroxaban for VTE Prophylaxis" using "Rivaroxaban for VTE Prophylaxis (2.16.840.1.113762.1.4.1110.50)"
- "Medication, Not Administered: Warfarin" using "Warfarin (2.16.840.1.113883.3.117.1.7.1.232)"
- "Medication, Not Ordered: Injectable Factor Xa Inhibitor for VTE Prophylaxis" using "Injectable Factor Xa Inhibitor for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.211)"
- "Medication, Not Ordered: Low Dose Unfractionated Heparin for VTE Prophylaxis" using "Low Dose Unfractionated Heparin for VTE Prophylaxis (2.16.840.1.113762.1.4.1045.39)"
- "Medication, Not Ordered: Low Molecular Weight Heparin for VTE Prophylaxis" using "Low Molecular Weight Heparin for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.219)"
- "Medication, Not Ordered: Rivaroxaban for VTE Prophylaxis" using "Rivaroxaban for VTE Prophylaxis (2.16.840.1.113762.1.4.1110.50)"
- "Medication, Not Ordered: Warfarin" using "Warfarin (2.16.840.1.113883.3.117.1.7.1.232)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: General or Neuraxial Anesthesia" using "General or Neuraxial Anesthesia (2.16.840.1.113883.3.666.5.1743)"
- "Procedure, Performed: General Surgery" using "General Surgery (2.16.840.1.113883.3.117.1.7.1.255)"
- "Procedure, Performed: Gynecological Surgery" using "Gynecological Surgery (2.16.840.1.113883.3.117.1.7.1.257)"
- "Procedure, Performed: Hip Fracture Surgery" using "Hip Fracture Surgery (2.16.840.1.113883.3.117.1.7.1.258)"
- "Procedure, Performed: Hip Replacement Surgery" using "Hip Replacement Surgery (2.16.840.1.113883.3.117.1.7.1.259)"
- "Procedure, Performed: Intracranial Neurosurgery" using "Intracranial Neurosurgery (2.16.840.1.113883.3.117.1.7.1.260)"

- "Procedure, Performed: Knee Replacement Surgery" using "Knee Replacement Surgery (2.16.840.1.113883.3.117.1.7.1.261)"

2.7 "Procedure, Performed: Urological Surgery" using "Urological Surgery (2.16.840.1.113883.3.117.1.7.1.272)"CMS111v10 Median Admit Decision Time to ED Departure Time for Admitted Patients

2.7.1 Detail

Description	Median time (in minutes) from admit decision time to time of departure from the ED for ED patients admitted to inpatient status.
Stratification:	Report total score and the following strata: Stratification 1 - all patients seen in the ED and admitted as an inpatient who do not have an inpatient encounter principal diagnosis (rank = 1) consistent with psychiatric/mental health disorders Stratification 2 - all patients seen in the ED and admitted as an inpatient who have an inpatient encounter principal diagnosis (rank = 1) consistent with psychiatric/mental health disorders
Rate Aggregation:	Calculate the duration in minutes between the Decision to Admit time and the departure time for each ED encounter in the measure population; report the median time for all calculations performed. The specification provides elements from the clinical electronic record required to calculate for each ED encounter, i.e., the duration the patient was in the Emergency Department after the decision to admit, also stated as: the Datetime difference between the Emergency Department facility location departure date/time and the Decision to Admit date/time. The calculation requires the median across all ED encounter durations.
Rationale	Reducing the time patients remain in the emergency department (ED) can improve access to treatment and quality of care (Morley et al., 2018). Morley's study indicates that ED overcrowding contributes to poor patient outcomes; increased mortality; delayed assessment and care; increased inpatient length of stay; risk of readmission; reduced satisfaction; and exposure to error. A review by Boudi et al. (2020) noted that ED boarding time (defined as the time between the decision to admit to inpatient and physical departure from the ED) is associated with adverse patient outcomes, such as delays in antibiotic administration, delays in pain medication administration, lower patient satisfaction, prolonged times to disposition among patients with acute asthma, and higher complication rates for cardiovascular events. Addressing critical gaps in patient throughput effectively and efficiently will shorten the length of stay and improve the delivery of safe, high quality and patient centered care.

Clinical Recommendation Statement	Length of stay (LOS) in the emergency department is an important indicator and a tool to monitor emergency care. Increased LOS has been associated with delays in treatment, adverse outcomes, and decreased patient satisfaction (Mentzonie et al., 2019). Empirical evidence shows that shorter lengths of stay in the ED lead to improved clinical outcomes. Quality improvement efforts aimed at reducing length of stay ED and overcrowding have been associated with an increase in ED patient volume, decrease in number of patients who leave without being seen, reduction in costs, and increase in patient satisfaction (Bucci, et al., 2016; Chang, et al., 2017; Zocchi et al., 2015).
Guidance	This measure specification delineates how to calculate the duration from the Decision to Admit to the departure from an Emergency Department (ED) visit. Decision to Admit: Documentation of the decision to admit the patient from the ED that is closest to the inpatient admission and since admission processes vary at different hospitals this can use either of the following: 1. An Order- A) admission order (this may be an operational order rather than the hospital admission to inpatient status order), B) disposition order (must explicitly state to admit), C) documented bed request, or D) documented acceptance from admitting physician. This is not the "bed assignment time" or "report called time". Or 2. An Assessment- an ED evaluation that results in a decision to "Admit Inpatient" The decision to admit inpatient must be performed during the ED visit that is within 1 hour of the inpatient admission and prior to the patient departing the ED. The specification provides elements from the clinical electronic record required to calculate the median time, i.e., the duration from the decision to admit to the time the patient physically departed the ED. Patients with behavioral health emergencies are stratified because often these situations are confounded by policies and practices in the community that are beyond the control of any individual hospital and present the hospital with quality and safety circumstances different from those of the acute medical patients (Joint Commission, 2012). Recent peer-reviewed studies also demonstrate the need for dedicated emergency mental health services, supplying evidence that the clinical needs for these patients substantively differ from the non-psychiatric population (American College of Emergency Physicians (ACEP), 2017; Lester, 2018). This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.

Initial Population	Inpatient hospitalizations ending during the measurement period with length of stay less than or equal to 120 days, where the patient received services during the preceding emergency department (ED) visit at the facility when a decision to admit inpatient was made prior to departing the ED
Measure Population	Initial Population.
Measure Population Exclusions	Emergency department encounters with an admission source in "Hospital Setting" (any different facility- by location or CCN) resulting in an inpatient stay
Supplemental Data Elements	For every patient evaluated by this measure, also identify payer, race, ethnicity, and sex.

2.7.2 Data Entry

Description	Median time (in minutes) from admit decision time to time of departure from the ED for ED patients admitted to inpatient status.

1. Initial Population - ER visits resulting in Inpatient admission (w/in one hour of ER departure); admission ends within measurement period (LOS<120 days).
2. Exclusions: Patients sent to ER from Hospital where the location or CNN is different than where the patient is.
3. Decision to Admit time entered in AMER or ED Dashboard.
4. Discharge from ER time entered in AMER or ED Dashboard; Disposition "Admit".
5. System calculates time difference (Admission must occur within 60 minutes of ED Discharge). Emergency (ER) visit that have been merged to the Hospitalization (IP) visit will not get counted for this measure. For visits to be counted, the ER visit cannot be merged to the IP visit.
6. Report all patients, plus:
   - Stratification 1: Patients without a principal diagnosis of psychiatric/mental health disorder. See Appendix A on using Value Sets. (Value Set: 2.16.840.1.113883.3.117.1.7.1.299).
   - Stratification 2: Patients with a principal diagnosis of psychiatric/mental health disorder (Value Set: 2.16.840.1.113883.3.117.1.7.1.299).

2.7.3 Terminology

- valueset "Admit Inpatient" (2.16.840.1.113762.1.4.1111.164)

- valueset "Decision to Admit to Hospital Inpatient" (2.16.840.1.113883.3.117.1.7.1.295)
- valueset "Emergency Department Evaluation" (2.16.840.1.113762.1.4.1111.163)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hospital Settings" (2.16.840.1.113762.1.4.1111.126)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Psychiatric/Mental Health Diagnosis" (2.16.840.1.113883.3.117.1.7.1.299)
- valueset "Race" (2.16.840.1.114222.4.11.836)

2.7.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Emergency Department Evaluation" using "Emergency Department Evaluation (2.16.840.1.113762.1.4.1111.163)"
- "Encounter, Order: Decision to Admit to Hospital Inpatient" using "Decision to Admit to Hospital Inpatient (2.16.840.1.113883.3.117.1.7.1.295)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

2.8 CMS190v10 Intensive Care Unit Venous Thromboembolism Prophylaxis

2.8.1 Detail

Description	This measure assesses the number of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the ICU or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer).
Rationale	Approximately two-thirds of cases of Deep Vein Thrombosis (DVT) or Pulmonary Emboli (PE) are associated with recent hospitalization. This is consistent with the 2001 report by Agency for Healthcare Research and Quality (Shojania et al., 2001). AHRQ reports that "the appropriate application of effective preventive measures in hospitals has major potential for improving patient safety, by reducing the incidence of VTE."Almost all hospitalized patients have at least one risk factor for Venous Thromboembolism (VTE), and approximately 40% have three or more risk factors. Without thromboprophylaxis, the incidence of objectively confirmed, hospital-acquired DVT is approximately 10% to 40% among medical or general surgical patients and 40% to 60% following major orthopedic surgery (Geerts et al., 2008). Commonly, criteria for admission to the Intensive Care Unit (ICU) itself, puts patients at an increased risk for developing VTE, and subsequent increased risk of morbidity from PE. Some risk factors are related to the acute illness present that allowed for the admission to the ICU unit, and some risk factors may be acquired during the ICU admission due to subsequent medical treatments, for example limitations of mobility, presence of central venous lines or mechanical ventilation and subsequent pharmacological paralysis. Reports of DVT in the population of ICU patients vary in relation to the acuity of the illness in this population. DVT in ICU patients diagnosed with routine venography or Doppler ultrasound found ranges between 10% to 100%. Five studies prospectively screened patients who were not receiving thromboprophylaxis during their ICU stays. The rates of DVT using Fibrinogen Uptake Test, Doppler Ultrasound or venography ranged from 13 to 31% (Geerts et al., 2008). It is essential for all ICUs to assess each patient upon admission to the ICU unit, a change in level of status, for the need for VTE prophylaxis due to the above increased development of risk factors (Geerts et al., 2004). Some select surgeries have previously been monitored in the Surgical Care Improvement Project; since performance on these surgeries has achieved very high levels, they are not included in this measure.
Clinical Recommendation Statement	Failure to recognize and protect patients at risk for venous thromboembolism (VTE) increases the chances for critically ill hospitalized patients for developing a deep vein thrombosis or dying from a pulmonary emboli. Screening all patients is the only evidence-based practice in reducing incidence of disease. All intensive care unit (ICU) patients should be evaluated for primary VTE prophylaxis and given appropriate prophylaxis when indicated.

Guidance	The definition of an ICU for the purpose of the measures noted above is that used by the CDC in the NHSN Patient Safety Project. An intensive care unit can be defined as a nursing care area that provides intensive observation, diagnosis, and therapeutic procedures for adults and/or children who are critically ill. An ICU excludes nursing areas that provide step-down, intermediate care, or telemetry only and specialty care areas. Reasons for no pharmacological and no mechanical VTE prophylaxis must be explicitly documented by the MD/APN/PA or pharmacist and linked with VTE prophylaxis. Ambulation alone is not a sufficient reason for not administering VTE prophylaxis. In order for ambulation/patient ambulating to be considered as an acceptable reason, there needs to be explicit documentation, e.g., "patient out of bed and ambulating in halls - no VTE prophylaxis needed." This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.
Initial Population	Inpatient hospitalizations for patients age 18 and older, discharged from hospital inpatient acute care without a diagnosis of venous thromboembolism (VTE) or obstetrics with a length of stay less than or equal to 120 days that ends during the measurement period
Denomintor	Inpatient hospitalizations for patients directly admitted or transferred to ICU during the hospitalization
Denominator Exclusions	• Inpatient hospitalizations for patients who have a hospital length of stay (LOS) less than 2 days • Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after ICU admission or transfer • Inpatient hospitalizations for patients with comfort measures documented by the day after surgery end date for surgeries that end the day of or the day after hospital admission • Inpatient hospitalizations for patients with a principal procedure of surgical care improvement Project (SCIP) VTE selected surgeries that end the day of or the day after ICU admission or transfer
Numerator	Inpatient hospitalizations for patients who received VTE prophylaxis: – The day of or the day after ICU admission (or transfer) – The day of or the day after surgery end date for surgeries that end the day of or the day after ICU admission (or transfer) Inpatient hospitalizations for patients who have documentation of a reason why no VTE prophylaxis was given: – Between the day of arrival and the day after ICU admission (for patients directly admitted as inpatients to the ICU) – The day of or the day after surgery end date (for surgeries that end the day of or the day after ICU admission (or transfer)

Numerator Exclusions	Not Applicable
Denominator Exceptions	Inpatient hospitalizations for patients with ICU LOS less than one day
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

2.8.2 Data Entry

Description	This measure assesses the number of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the ICU or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer).

1. Inpatient encounter, patient > 18, discharged without a diagnosis of VTE or Obstetrics, LOS < 120 days. Include observation.
2. Denominator: Patients admitted to or transferred to ICU during admission.
3. Denominator Exclusions:

- LOS < 2 days.
- Comfort measures documented from start of hospitalization to day after first ICU stay.
- Comfort measures documented day after general anesthesia done after ICU admission.

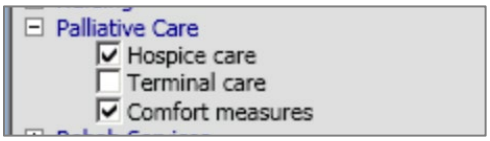


Figure 2-12: Palliative Care list

- Primary Diagnosis selected surgeries done by the day after ICU admission:
  - General Surgery.
  - Gyn Surgery.
  - Hip Fracture Surgery.
  - Hip Replacement Surgery.
  - Intracranial Neurosurgery.
  - Knee Replacement Surgery.
  - Urologic Surgery.

1. Numerator:

- Received VTE prophylaxis day of or day after ICU admission or surgical procedure.
  - Low dose unfractionated heparin.
  - Low molecular weight heparin.
  - Injectable Factor Xa inhibitor.
  - Warfarin.
  - Intermittent pneumatic compression devices(IPL/TREG/Anticoag DVT Prevention).
  - Venous foot pumps (IPL/TREG/Anticoag DVT Prevention).
  - Graduated compression stockings (IPL/TREG/Anticoag DVT Prevention).

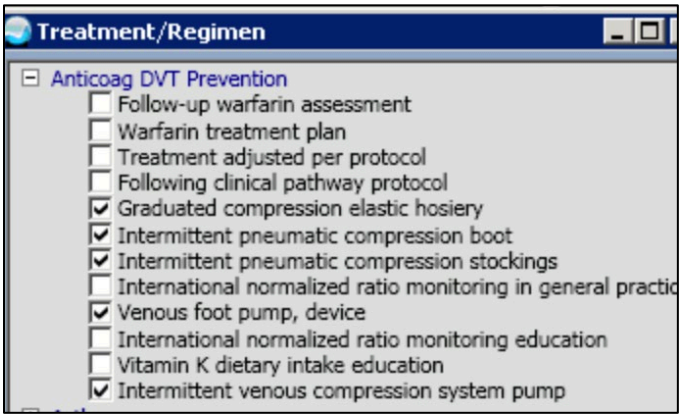


Figure 2-13: Treatment/Regimen list

OR:

  - Oral Factor Xa Inhibitor given.

    AND:

- Prior or present diagnosis of AF or VTE.
- OR Present or Prior Knee or Hip Replacement surgery.
- Documented reason for no VTE prophylaxis given.
  - Medical reason (document refusal file, complication of medical care).
  - Patient refusal (document as refusal of treatment by patient in refusal file, Personal history).
- Low risk for VTE.
- Low risk assessment score.
- INR >3.0.
- On medication:
  - Direct thrombin inhibitor.

- Unfractionated heparin.
- Glycoprotein IIB/IIA inhibitors.

1. Denominator Exceptions: ICU stay <1 day.

2.8.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Risk for venous thromboembolism" ("LOINC Code (72136-5)")
- valueset "Atrial Fibrillation/Flutter" (2.16.840.1.113883.3.117.1.7.1.202)
- valueset "Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)
- valueset "Direct Thrombin Inhibitor" (2.16.840.1.113883.3.117.1.7.1.205)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.117.1.7.1.292)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "General or Neuraxial Anesthesia" (2.16.840.1.113883.3.666.5.1743)
- valueset "General Surgery" (2.16.840.1.113883.3.117.1.7.1.255)
- valueset "Glycoprotein IIb/IIIa Inhibitors" (2.16.840.1.113762.1.4.1045.41)
- valueset "Graduated compression stockings (GCS)" (2.16.840.1.113883.3.117.1.7.1.256)
- valueset "Gynecological Surgery" (2.16.840.1.113883.3.117.1.7.1.257)
- valueset "Hip Fracture Surgery" (2.16.840.1.113883.3.117.1.7.1.258)
- valueset "Hip Replacement Surgery" (2.16.840.1.113883.3.117.1.7.1.259)
- valueset "Injectable Factor Xa Inhibitor for VTE Prophylaxis" (2.16.840.1.113883.3.117.1.7.1.211)
- valueset "INR" (2.16.840.1.113883.3.117.1.7.1.213)
- valueset "Intensive Care Unit" (2.16.840.1.113762.1.4.1029.206)
- valueset "Intermittent pneumatic compression devices (IPC)" (2.16.840.1.113883.3.117.1.7.1.214)
- valueset "Intracranial Neurosurgery" (2.16.840.1.113883.3.117.1.7.1.260)
- valueset "Intravenous route" (2.16.840.1.113883.3.117.1.7.1.222)
- valueset "Knee Replacement Surgery" (2.16.840.1.113883.3.117.1.7.1.261)
- valueset "Low Dose Unfractionated Heparin for VTE Prophylaxis" (2.16.840.1.113762.1.4.1045.39)

- valueset "Low Molecular Weight Heparin for VTE Prophylaxis" (2.16.840.1.113883.3.117.1.7.1.219)
- valueset "Low Risk" (2.16.840.1.113883.3.117.1.7.1.400)
- valueset "Medical Reason" (2.16.840.1.113883.3.117.1.7.1.473)
- valueset "Observation Services" (2.16.840.1.113762.1.4.1111.143)
- valueset "Obstetrics" (2.16.840.1.113883.3.117.1.7.1.263)
- valueset "Obstetrics VTE" (2.16.840.1.113883.3.117.1.7.1.264)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment" (2.16.840.1.113883.3.117.1.7.1.134)
- valueset "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Rivaroxaban for VTE Prophylaxis" (2.16.840.1.113762.1.4.1110.50)
- valueset "Subcutaneous route" (2.16.840.1.113883.3.117.1.7.1.223)
- valueset "Unfractionated Heparin" (2.16.840.1.113883.3.117.1.7.1.218)
- valueset "Urological Surgery" (2.16.840.1.113883.3.117.1.7.1.272)
- valueset "Venous foot pumps (VFP)" (2.16.840.1.113883.3.117.1.7.1.230)
- valueset "Venous Thromboembolism" (2.16.840.1.113883.3.117.1.7.1.279)
- valueset "Warfarin" (2.16.840.1.113883.3.117.1.7.1.232)

2.8.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Risk for venous thromboembolism" using "Risk for venous thromboembolism (LOINC Code 72136-5)"
- "Device, Applied: Graduated compression stockings (GCS)" using "Graduated compression stockings (GCS) (2.16.840.1.113883.3.117.1.7.1.256)"
- "Device, Applied: Intermittent pneumatic compression devices (IPC)" using "Intermittent pneumatic compression devices (IPC) (2.16.840.1.113883.3.117.1.7.1.214)"
- "Device, Applied: Venous foot pumps (VFP)" using "Venous foot pumps (VFP) (2.16.840.1.113883.3.117.1.7.1.230)"
- "Device, Not Applied: Graduated compression stockings (GCS)" using "Graduated compression stockings (GCS) (2.16.840.1.113883.3.117.1.7.1.256)"

- "Device, Not Applied: Intermittent pneumatic compression devices (IPC)" using "Intermittent pneumatic compression devices (IPC) (2.16.840.1.113883.3.117.1.7.1.214)"
- "Device, Not Applied: Venous foot pumps (VFP)" using "Venous foot pumps (VFP) (2.16.840.1.113883.3.117.1.7.1.230)"
- "Device, Not Ordered: Graduated compression stockings (GCS)" using "Graduated compression stockings (GCS) (2.16.840.1.113883.3.117.1.7.1.256)"
- "Device, Not Ordered: Intermittent pneumatic compression devices (IPC)" using "Intermittent pneumatic compression devices (IPC) (2.16.840.1.113883.3.117.1.7.1.214)"
- "Device, Not Ordered: Venous foot pumps (VFP)" using "Venous foot pumps (VFP) (2.16.840.1.113883.3.117.1.7.1.230)"
- "Diagnosis: Atrial Fibrillation/Flutter" using "Atrial Fibrillation/Flutter (2.16.840.1.113883.3.117.1.7.1.202)"
- "Diagnosis: Venous Thromboembolism" using "Venous Thromboembolism (2.16.840.1.113883.3.117.1.7.1.279)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Observation Services" using "Observation Services (2.16.840.1.113762.1.4.1111.143)"
- "Intervention, Order: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" using "Comfort Measures (1.3.6.1.4.1.33895.1.3.0.45)"
- "Laboratory Test, Performed: INR" using "INR (2.16.840.1.113883.3.117.1.7.1.213)"
- "Medication, Administered: Direct Thrombin Inhibitor" using "Direct Thrombin Inhibitor (2.16.840.1.113883.3.117.1.7.1.205)"
- "Medication, Administered: Glycoprotein IIb/IIIa Inhibitors" using "Glycoprotein IIb/IIIa Inhibitors (2.16.840.1.113762.1.4.1045.41)"
- "Medication, Administered: Injectable Factor Xa Inhibitor for VTE Prophylaxis" using "Injectable Factor Xa Inhibitor for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.211)"

- "Medication, Administered: Low Dose Unfractionated Heparin for VTE Prophylaxis" using "Low Dose Unfractionated Heparin for VTE Prophylaxis (2.16.840.1.113762.1.4.1045.39)"
- "Medication, Administered: Low Molecular Weight Heparin for VTE Prophylaxis" using "Low Molecular Weight Heparin for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.219)"
- "Medication, Administered: Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment" using "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment (2.16.840.1.113883.3.117.1.7.1.134)"
- "Medication, Administered: Rivaroxaban for VTE Prophylaxis" using "Rivaroxaban for VTE Prophylaxis (2.16.840.1.113762.1.4.1110.50)"
- "Medication, Administered: Unfractionated Heparin" using "Unfractionated Heparin (2.16.840.1.113883.3.117.1.7.1.218)"
- "Medication, Administered: Warfarin" using "Warfarin (2.16.840.1.113883.3.117.1.7.1.232)"
- "Medication, Not Administered: Injectable Factor Xa Inhibitor for VTE Prophylaxis" using "Injectable Factor Xa Inhibitor for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.211)"
- "Medication, Not Administered: Low Dose Unfractionated Heparin for VTE Prophylaxis" using "Low Dose Unfractionated Heparin for VTE Prophylaxis (2.16.840.1.113762.1.4.1045.39)"
- "Medication, Not Administered: Low Molecular Weight Heparin for VTE Prophylaxis" using "Low Molecular Weight Heparin for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.219)"
- "Medication, Not Administered: Rivaroxaban for VTE Prophylaxis" using "Rivaroxaban for VTE Prophylaxis (2.16.840.1.113762.1.4.1110.50)"
- "Medication, Not Administered: Warfarin" using "Warfarin (2.16.840.1.113883.3.117.1.7.1.232)"
- "Medication, Not Ordered: Injectable Factor Xa Inhibitor for VTE Prophylaxis" using "Injectable Factor Xa Inhibitor for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.211)"
- "Medication, Not Ordered: Low Dose Unfractionated Heparin for VTE Prophylaxis" using "Low Dose Unfractionated Heparin for VTE Prophylaxis (2.16.840.1.113762.1.4.1045.39)"
- "Medication, Not Ordered: Low Molecular Weight Heparin for VTE Prophylaxis" using "Low Molecular Weight Heparin for VTE Prophylaxis (2.16.840.1.113883.3.117.1.7.1.219)"

- "Medication, Not Ordered: Rivaroxaban for VTE Prophylaxis" using "Rivaroxaban for VTE Prophylaxis (2.16.840.1.113762.1.4.1110.50)"
- "Medication, Not Ordered: Warfarin" using "Warfarin (2.16.840.1.113883.3.117.1.7.1.232)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: General or Neuraxial Anesthesia" using "General or Neuraxial Anesthesia (2.16.840.1.113883.3.666.5.1743)"
- "Procedure, Performed: General Surgery" using "General Surgery (2.16.840.1.113883.3.117.1.7.1.255)"
- "Procedure, Performed: Gynecological Surgery" using "Gynecological Surgery (2.16.840.1.113883.3.117.1.7.1.257)"
- "Procedure, Performed: Hip Fracture Surgery" using "Hip Fracture Surgery (2.16.840.1.113883.3.117.1.7.1.258)"
- "Procedure, Performed: Hip Replacement Surgery" using "Hip Replacement Surgery (2.16.840.1.113883.3.117.1.7.1.259)"
- "Procedure, Performed: Intracranial Neurosurgery" using "Intracranial Neurosurgery (2.16.840.1.113883.3.117.1.7.1.260)"
- "Procedure, Performed: Knee Replacement Surgery" using "Knee Replacement Surgery (2.16.840.1.113883.3.117.1.7.1.261)"
- "Procedure, Performed: Urological Surgery" using "Urological Surgery (2.16.840.1.113883.3.117.1.7.1.272)"

2.9 CMS506v4 Safe Use of Opioids – Concurrent Prescribing

2.9.1 Detail

Description	Proportion of inpatient hospitalizations for patients 18 years of age and older prescribed, or continued on, two or more opioids or an opioid and benzodiazepine concurrently at discharge

Rationale	Unintentional opioid overdose fatalities have become a major public health concern in the United States (Rudd et al., 2016). Reducing the number of unintentional overdoses has become a priority for numerous federal organizations including, but not limited to, the Centers for Disease Control and Prevention (CDC), the Federal Interagency Workgroup for Opioid Adverse Drug Events, and the Substance Abuse and Mental Health Services Administration. Concurrent prescriptions of opioids or opioids and benzodiazepines places patients at a greater risk of unintentional overdose due to the increased risk of respiratory depression (Dowell, Haegerich, & Chou, 2016). An analysis of national prescribing patterns shows that more than half of patients who received an opioid prescription in 2009 had filled another opioid prescription within the previous 30 days (National Institute on Drug Abuse, 2011). Studies of multiple claims and prescription databases have shown that between 5%-15% of patients receive concurrent opioid prescriptions and 5%-20% of patients receive concurrent opioid and benzodiazepine prescriptions across various settings (Liu et al., 2013; Mack et al., 2015, Park et al., 2015). Patients who have multiple opioid prescriptions have an increased risk for overdose (Jena et al., 2014). Rates of fatal overdose are ten times higher in patients who are co-dispensed opioid analgesics and benzodiazepines than opioids alone (Dasgupta et al., 2015). The number of opioid overdose deaths involving benzodiazepines increased 14% on average each year from 2006 to 2011, while the number of opioid analgesic overdose deaths not involving benzodiazepines did not change significantly (Jones & McAninch, 2015). Furthermore, concurrent use of benzodiazepines with opioids was prevalent in 31%-51% of fatal overdoses (Dowell, Haegerich, & Chou, 2016). One study found that eliminating concurrent use of opioids and benzodiazepines could reduce the risk of opioid overdose-related ED and inpatient visits by 15% and potentially could have prevented an estimated 2,630 deaths related to opioid painkiller overdoses in 2015 (Sun et al., 2017). A study on The Opioid Safety Initiative in the Veterans Health Administration (VHA), which includes an opioid and benzodiazepine concurrent prescribing measure that this measure is based on, was associated with a decrease of 20.67% overall and 0.86% patients per month (781 patients per month) receiving concurrent benzodiazepine with an opioid among all adult VHA patients who filled outpatient opioid prescriptions from October 2012 to September 2014 (Lin et al., 2017). Adopting a measure that calculates the proportion of patients with two or more opioids or opioids and benzodiazepines concurrently has the potential to reduce preventable mortality and reduce the costs associated with adverse events related to opioid use by (1) encouraging providers to identify patients with concurrent prescriptions of opioids or opioids and benzodiazepines and (2) discouraging providers from prescribing two or more opioids or opioids and benzodiazepines concurrently
Clinical Recommendation Statement	The 2016 CDC Guideline for Prescribing Opioids for Chronic Pain also recommends that:

	– "Clinicians should avoid prescribing opioids and benzodiazepines concurrently whenever possible. Clinicians should communicate with others managing the patient to discuss the patient's needs, prioritize patient goals, weigh risks of concurrent benzodiazepine and opioid exposure, and coordinate care." – "Clinicians should check the PDMP for concurrent controlled medications prescribed by other clinicians and should consider involving pharmacists and pain specialists as part of the management team when opioids are co-prescribed with other central nervous system depressants." – "Experts emphasized that clinicians should communicate with mental health professionals managing the patient to discuss the patient's needs, prioritize patient goals, weigh risks of concurrent benzodiazepine and opioid exposure, and coordinate care." In addition to the 2016 CDC Guideline for Prescribing Opioids for Chronic Pain, opioid prescribing guidelines issued by various state agencies and professional societies for various settings agree with the recommendation to avoid concurrently prescribing opioids (AAEM, WAMDG) and opioids and benzodiazepines (WAMDG, ASIPP, NYC DOHMH) whenever possible as the combination of these medications may potentiate opioid-induced respiratory depression. The CDC Guideline for Prescribing Opioids for Chronic Pain (Dowell, 2016) also recommends that for patients found to have multiple opioid prescriptions clinicians should: – "Discuss information from the PDMP with their patient and confirm that the patient is aware of the additional prescriptions." – "Discuss safety concerns, including increased risk for respiratory depression and overdose, with patients found to be receiving opioids from more than one prescriber or receiving medications that increase risk when combined with opioids and consider offering naloxone." – "Discuss safety concerns with other clinicians who are prescribing controlled substances for their patient. Ideally clinicians should first discuss concerns with their patient and inform him or her that they plan to coordinate care with the patient's other prescribers to improve the patient's safety."
Definition	For the purpose of this measure, the following are defined as: – Opioid: Any Schedule II or Schedule III opioid medication – Benzodiazepine: Any Schedule IV benzodiazepine medication – Prescribed: The intent of the measure is to capture opioid and/or benzodiazepine medications continued or ordered at discharge – Numerator criteria: Two or more unique orders for opioids, or an opioid and benzodiazepine at discharge

Guidance	Clinician judgement, clinical appropriateness, or both may indicate concurrent prescribing of two unique opioids, or an opioid and benzodiazepine is medically necessary, thus the measure is not expected to have a zero rate. Inpatient hospitalizations with discharge medications of a new or continuing opioid or a new or continuing benzodiazepine prescription should be included in the initial population. Inpatient hospitalizations with discharge medications of two or more new or continuing opioids or new or continuing opioid and benzodiazepine resulting in concurrent therapy at discharge should be included in the numerator. Each benzodiazepine and opioid included on the medication discharge list is considered a unique prescription. This eCQM is an episode-based measure. An episode is defined as each inpatient hospitalization or encounter that ends during the measurement period.
Initial Population	Inpatient hospitalizations (inpatient stay less than or equal to 120 days) that end during the measurement period, where the patient is 18 years of age and older at the start of the encounter and prescribed one or more new or continuing opioid or benzodiazepine at discharge
Denomintor	Initial Population
Denominator Exclusions	Inpatient hospitalizations where patients have cancer that begins prior to or during the encounter or are receiving palliative or hospice care (including comfort measures, terminal care, and dying care) during the encounter, patients discharged to another inpatient care facility, and patients who expire during the inpatient stay.
Numerator	Inpatient hospitalizations where the patient is prescribed or continuing to take two or more opioids or an opioid and benzodiazepine at discharge
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex

2.9.2 Data Entry

1. Inpatient encounter, patient > 18, discharged with a new or continuing prescription for an opioid or benzodiazepine. LOS < 120 days ending in measurement period.

2. Initial Population:

- Inpatient hospitalizations (Inpatient stay <= 120 days) at the end during the measurement. Patient is =>18 years of age at the start of the admission and prescribed a new or continuing opioid (Schedule II or III, Value set 2.16.840.1.113762.1.4.1111.165) or benzodiazepine (Schedule IV, Value set 2.16.840.1.113762.1.4.1125.1) at discharge.

3. Denominator:

- Initial population including patients who received one or more prescriptions for an opioid (Schedule II or III, Value set 2.16.840.1.113762.1.4.1111.165) or benzodiazepine (Schedule IV, Value set 2.16.840.1.113762.1.4.1125.1) that is continued or newly-prescribed at discharge.

4. Denominator Exclusions:

- Patients with diagnosis of cancer continuing during the hospitalization. (Value set 2.16.840.1.113762.1.4.1111.161).

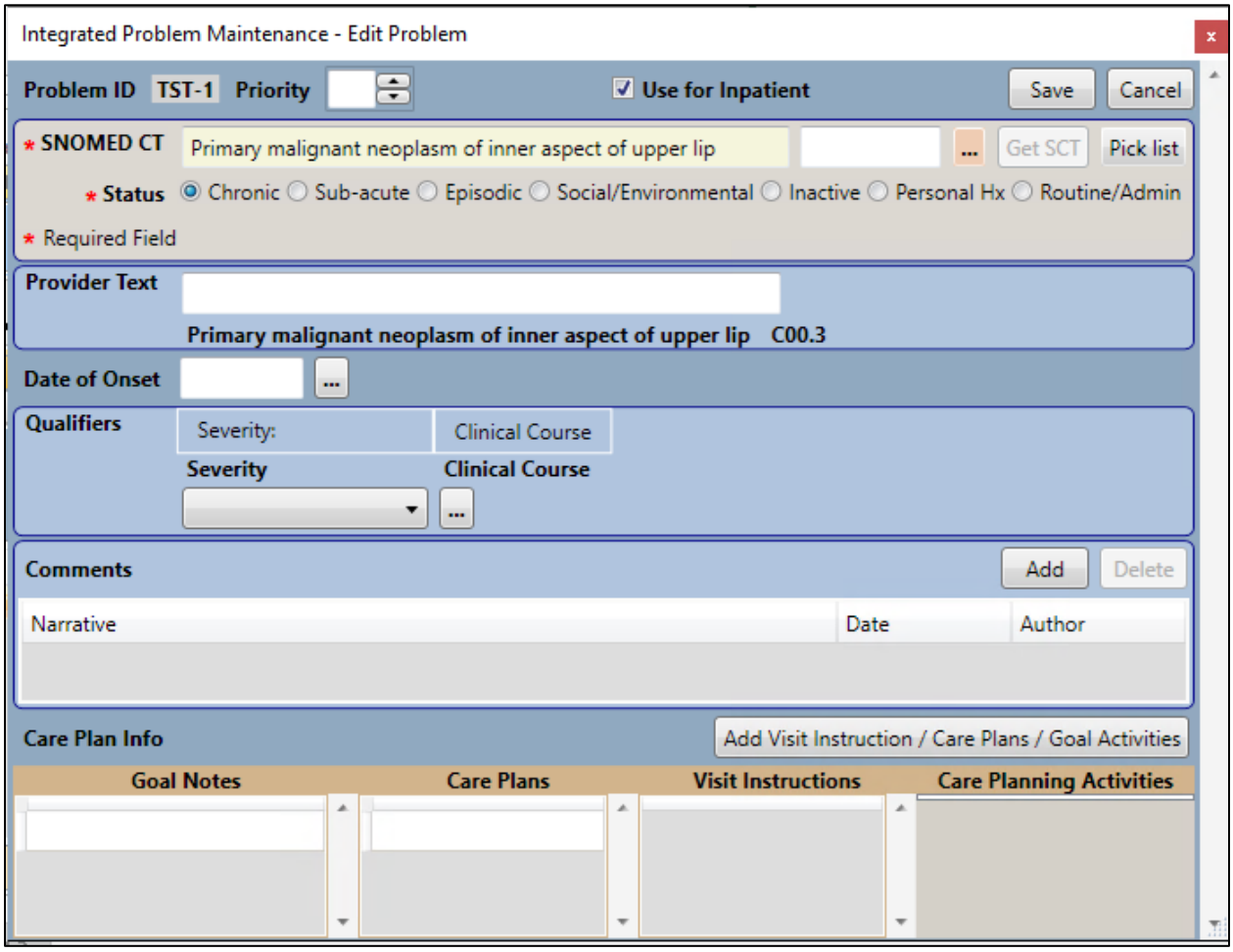


Figure 2-14: Integrated Problem Maintenance – Edit Problem

- Patients receiving palliative or hospice care during the encounter. Enter on TREG (See Appendix A) (Value set 2.16.840.1.113883.3.600.1.1579).

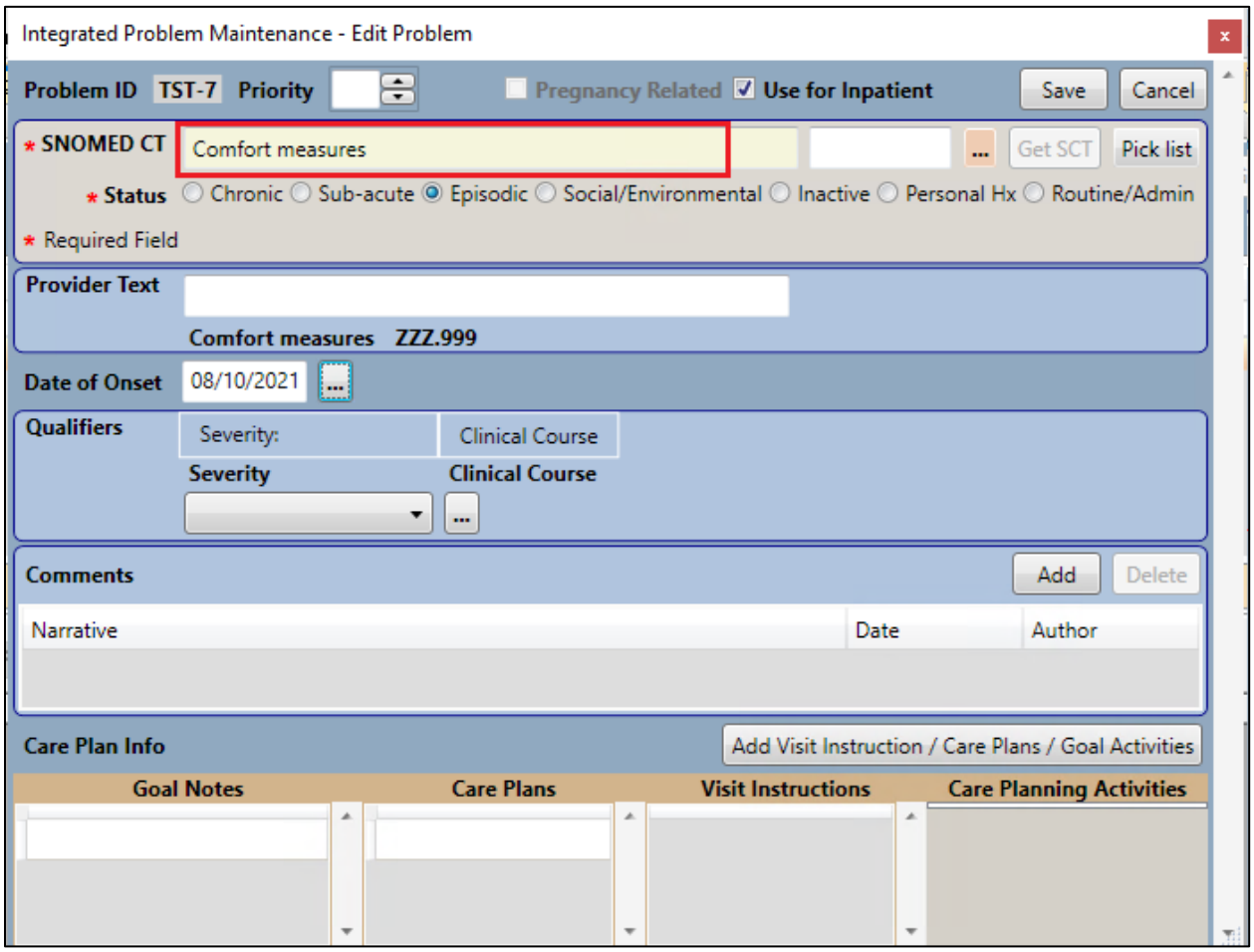


Figure 2-15: Comfort Measures selection

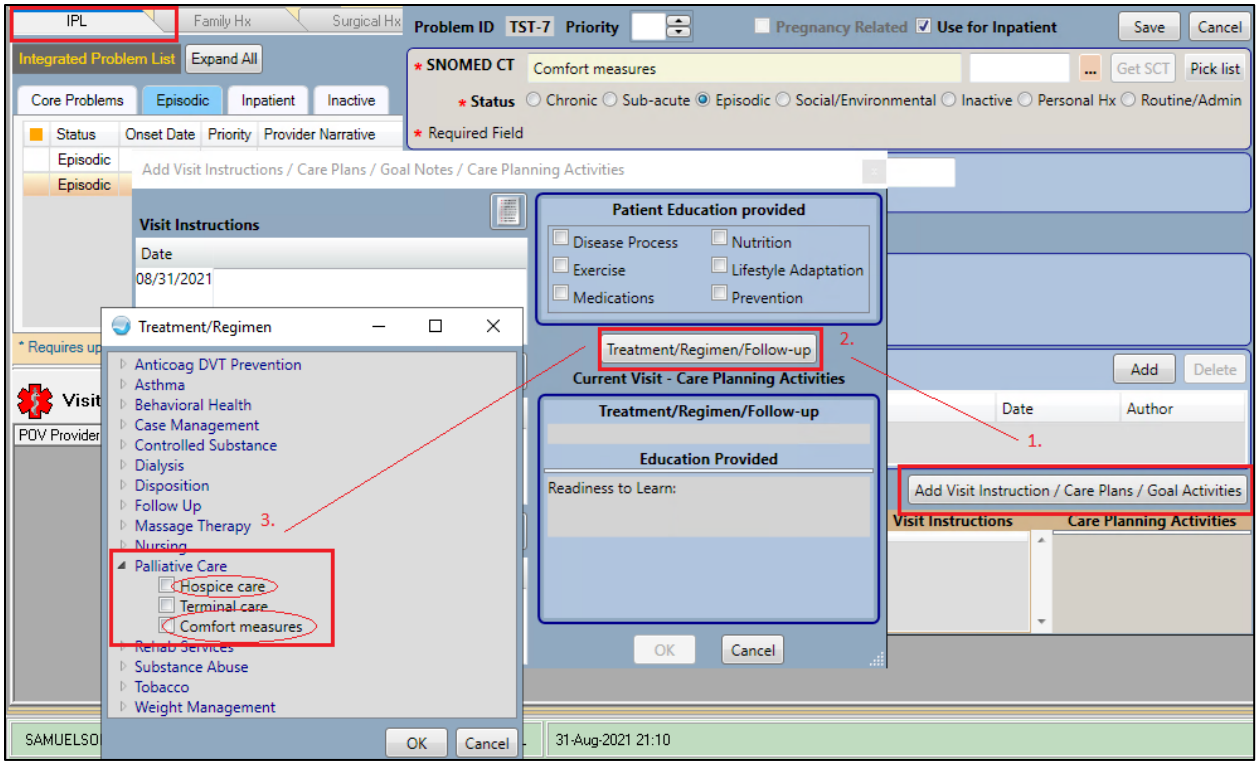


Figure 2-16: Patients receiving palliative or hospice care

Numerator: Patients who are given prescriptions (new or continuing) for more than one opioid (Schedule II or III) or an opioid plus a benzodiazepine (Schedule IV) at discharge. Prescriptions are entered as discharge medication.

Note: This is a proportion measure. It is not expected to be zero since some patients will have an appropriate indication for these medications in the judgment of the provider.

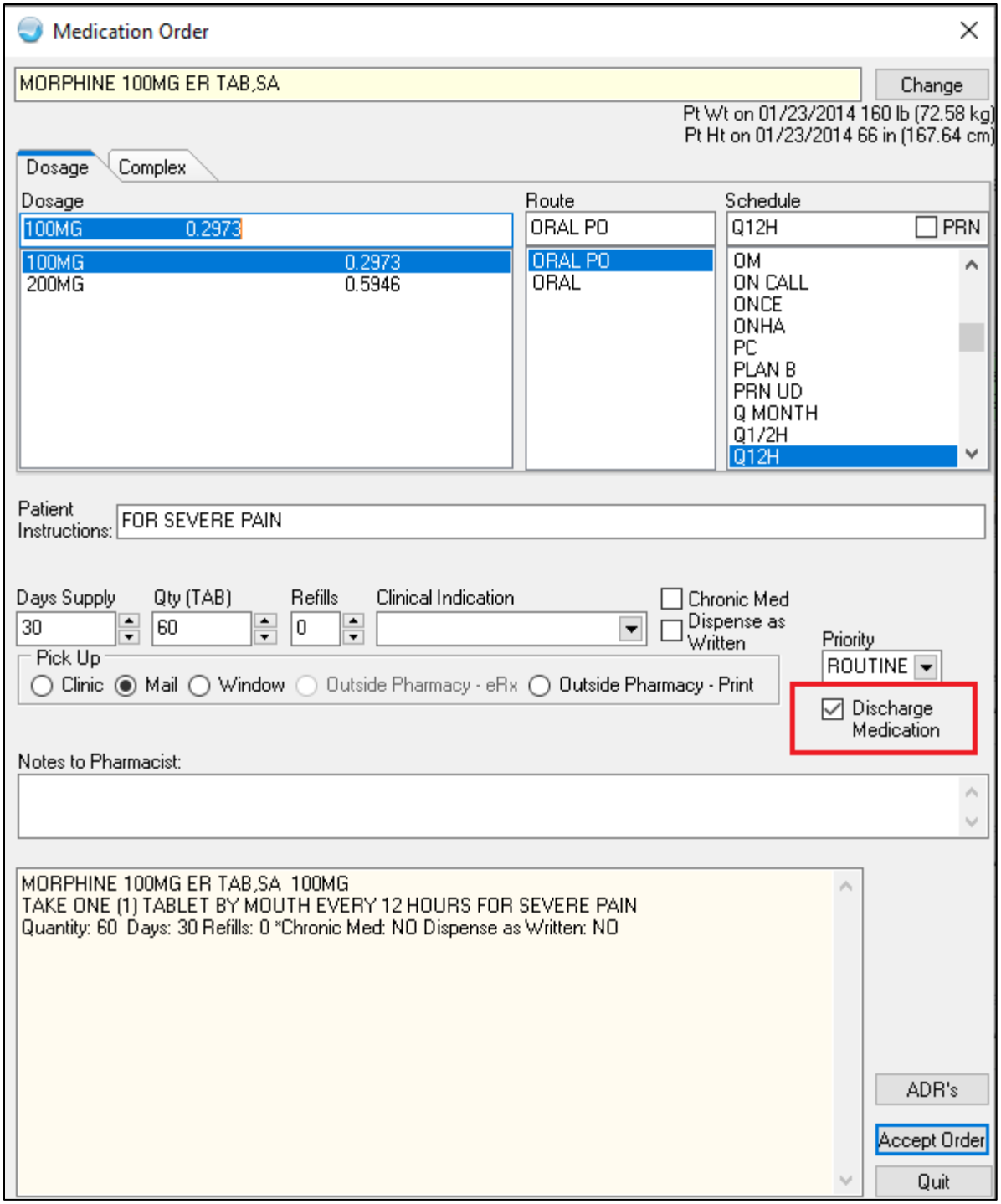


Figure 2-17: Discharge Medication selection

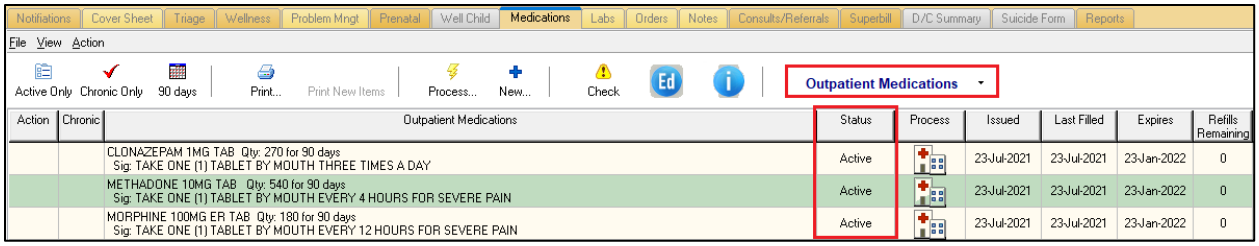


Figure 2-18: Outpatient Medications and Status

2.9.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "All Primary and Secondary Cancer" (2.16.840.1.113762.1.4.1111.161)
- valueset "Discharge To Acute Care Facility" (2.16.840.1.113883.3.117.1.7.1.87)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hospice Care Referral or Admission" (2.16.840.1.113762.1.4.1116.365)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Palliative or Hospice Care" (2.16.840.1.113883.3.600.1.1579)
- valueset "Patient Expired" (2.16.840.1.113883.3.117.1.7.1.309)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Schedule II & III Opioid Medications" (2.16.840.1.113762.1.4.1111.165)
- valueset "Schedule IV Benzodiazepines" (2.16.840.1.113762.1.4.1125.1)

2.9.4 Data Criteria (QDM Data Elements)

- "Diagnosis: All Primary and Secondary Cancer" using "All Primary and Secondary Cancer (2.16.840.1.113762.1.4.1111.161)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Intervention, Order: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Intervention, Performed: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Medication, Discharge: Schedule II & III Opioid Medications" using "Schedule II & III Opioid Medications (2.16.840.1.113762.1.4.1111.165)"

- "Medication, Discharge: Schedule IV Benzodiazepines" using "Schedule IV Benzodiazepines (2.16.840.1.113762.1.4.1125.1)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.0 Provider Measures (For 2022 Reporting Period)

3.1 CMS2v11 Preventive Care and Screening: Screening for Depression and Follow-Up Plan

3.1.1 Detail

Description	Percentage of patients aged 12 years and older screened for depression on the date of the encounter or 14 days prior to the date of the encounter using an age-appropriate standardized depression screening tool AND if positive, a follow-up plan is documented on the date of the eligible encounter

Rationale	Depression is a serious medical illness associated with higher rates of chronic disease, increased health care utilization, and impaired functioning (Pratt and Brody, 2014). Results from a 2016 U.S. survey indicated that 12.8 percent of adolescents (3.1 million adolescents) had a major depressive episode (MDE) in the past year, with nine percent of adolescents (2.2 million adolescents) having one MDE with severe impairment (Substance Abuse and Mental Health Services Administration, 2017). The odds of a diagnosis of depression is believed to be 2.6 times greater for children and adolescents exposed to trauma as compared to those unexposed or less exposed (Vibhakar et al., 2019). Children and teens with major depressive disorder (MDD) have been found to have difficulty carrying out their daily activities, relating to others, growing up healthy, and also are at an increased risk of suicide (Siu on behalf of the U.S. Preventive Services Task Force [USPSTF], 2016). The same 2016 study indicated that 6.7 percent of adults aged 18 or older (16.2 million adults) had at least one MDE with four point three percent of adults (10.3 million adults) having one MDE with severe impairment in the past year (Substance Abuse and Mental Health Services Administration, 2017). Moreover, it is estimated 22.9 percent of adult patients with chronic pain (2.2 million adults) were diagnosed with comorbid depression from 2011 to 2015, with an upward trend of prevalence among Black Americans, patients aged 65 to 84 years old, Medicare and Medicaid insured patients, and patients from zip code areas with low annual household incomes (Orhurhu et al., 2020). Depression and other mood disorders, such as bipolar disorder and anxiety disorders, especially during the perinatal period, can have devastating effects on women, infants, and families (American College of Obstetricians and Gynecologists, 2018). It's estimated that the global prevalence of antenatal (or perinatal) depression ranges from 15 to 65 percent, with current or previous exposure to abuse and violence, lack of social support, and family history of mental disorders being risk factors. Depressive symptoms measured during pregnancy have been shown to influence the quality of the postpartum mother-infant relationship (Raine et al., 2020). Additionally, the risk of low birth weight and preterm birth is higher among infants born from depressed mothers (Dadi, Miller, Bisetegn, Mwanri, & 2020). Negative outcomes associated with depression make it crucial to screen in order to identify and treat depression in its early stages. Data indicates that as the severity of depressive symptoms increase, rates of having difficulty with work, home, or social activities related to depressive symptoms increase. For those twelve and older with mild depressive symptoms, 45.7 percent reported difficulty with activities, and for those with severe depressive symptoms, 88 percent reported difficulty (Pratt & Brody, 2014). Depression also imposes significant economic burden through direct and indirect costs, supporting the need for regular depression screening. "In the United States, an estimated $22.8 billion was spent on depression treatment in 2009, and lost productivity cost an additional estimated $23 billion in 2011" (Siu & USPSTF, 2016, p. 383-384). Numerous studies have found significant disparities in depression prevalence and treatment among racial/ethnic minorities. One study

	revealed that Indigenous adults are at a high risk for posttraumatic stress disorder, depression, suicide, substance use disorder, and concurrent behavioral health disorders secondary to these initial health problems (Ka'apu and Burnette, 2019). Additionally, though rates of depression are lower among Blacks and Hispanics than among whites, depression among Blacks and Hispanics is likely to be more recurrent. Furthermore, 48 percent of whites receive mental health services, compared to just 31 percent of Blacks and Hispanics, and 22 percent of Asians (American Psychiatric Association, 2017). Asian Americans and Black Americans are also significantly more likely to utilize emergency rooms for depression treatment, which contributes to inconsistent follow-up care (Lee, et al., 2014). While Primary Care Providers (PCPs) serve as the first line of defense in the detection of depression, studies show that PCPs fail to recognize up to 46 percent of depressed patients (Borner et al, 2010). "In nationally representative U.S. surveys, about eight percent of adolescents reported having major depression in the past year. Only 36 percent to 44 percent of children and adolescents with depression receive treatment, suggesting that the majority of depressed youth are undiagnosed and untreated" (Siu on behalf of USPSTF, 2016, p. 360 & p. 364). Furthermore, evidence supports that screening for depression in pregnant and postpartum women is of moderate net benefit, and treatment options for positive depression screening should be available for patients twelve and older including pregnant and postpartum women. This measure seeks to align with clinical guideline recommendations as well as the Healthy People 2020 recommendation for routine screening for mental health problems as a part of primary care for both children and adults (U.S. Department of Health and Human Services, 2014) and makes an important contribution to the quality domain of community and population health.

Clinical Recommendation Statement	Adolescent Recommendation (12-18 years): "The USPSTF recommends screening for MDD in adolescents aged 12 to 18 years. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up (B recommendation)" (Siu on behalf of USPSTF, 2016, p. 360). Adult Recommendation (18 years and older): "The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up (B recommendation)" (Siu & USPSTF, 2016, p. 380). “The USPSTF recommends that clinicians provide or refer pregnant and postpartum persons who are at increased risk of perinatal depression to counseling interventions. (B recommendation)” (U.S. Preventive Services Task Force, 2019). The Institute for Clinical Systems Improvement (ICSI) health care guideline, Adult Depression in Primary Care, provides the following recommendations: 1. "Clinicians should routinely screen all adults for depression using a standardized instrument." 2. "Clinicians should establish and maintain follow-up with patients." 3. "Clinicians should screen and monitor depression in pregnant and post-partum women." (Trangle et al., 2016, p. 8-10).

Definition	Screening: Completion of a clinical or diagnostic tool used to identify people at risk of developing or having a certain disease or condition, even in the absence of symptoms. Standardized Depression Screening Tool: A normalized and validated depression screening tool developed for the patient population in which it is being utilized. Examples of standardized depression screening tools include but are not limited to: • Adolescent Screening Tools (12-17 years) • Patient Health Questionnaire for Adolescents (PHQ-A) • Beck Depression Inventory-Primary Care Version (BDI-PC) • Mood Feeling Questionnaire (MFQ) • Center for Epidemiologic Studies Depression Scale (CES-D) • Patient Health Questionnaire (PHQ-9) • Pediatric Symptom Checklist (PSC-17) • PRIME MD-PHQ2 • Adult Screening Tools (18 years and older) • Patient Health Questionnaire (PHQ9) • Beck Depression Inventory (BDI or BDI-II) • Center for Epidemiologic Studies Depression Scale (CES-D) • Depression Scale (DEPS) • Duke Anxiety-Depression Scale (DADS) • Geriatric Depression Scale (GDS) • Cornell Scale for Depression in Dementia (CSDD) • PRIME MD-PHQ2 • Hamilton Rating Scale for Depression (HAM-D) • Quick Inventory of Depressive Symptomatology Self-Report (QID-SR) • Computerized Adaptive Testing Depression Inventory (CAT-DI) • Computerized Adaptive Diagnostic Screener (CAD-MDD) • Perinatal Screening Tools • Edinburgh Postnatal Depression Scale • Postpartum Depression Screening Scale • Patient Health Questionnaire 9 (PHQ-9) • Beck Depression Inventory • Beck Depression Inventory-II • Center for Epidemiologic Studies Depression Scale • Zung Self-rating Depression Scale Follow-Up Plan:

	Documented follow-up for a positive depression screening must include one or more of the following: • Referral to a practitioner who is qualified to diagnose and treat depression • Pharmacological interventions • Other interventions or follow-up for the diagnosis or treatment of depression

Guidance	The intent of the measure is to screen for depression in patients who have never had a diagnosis of depression or bipolar disorder prior to the eligible encounter used to evaluate the numerator. Patients who have ever been diagnosed with depression or bipolar disorder will be excluded from the measure. A depression screen is completed on the date of the encounter or up to 14 days prior to the date of the encounter using an age-appropriate standardized depression screening tool AND if positive, a follow-up plan must be documented on the date of the encounter, such as referral to a provider for additional evaluation, pharmacological interventions, or other interventions for the treatment of depression. This measure does not require documentation of a specific score, just whether results of the normalized and validated depression screening tool used are considered positive or negative. Each standardized screening tool provides guidance on whether a particular score is considered positive for depression. This eCQM is a patient-based measure. Depression screening is required once per measurement period, not at all encounters. Screening Tools: • An age-appropriate, standardized, and validated depression screening tool must be used for numerator compliance. • The name of the age-appropriate standardized depression screening tool utilized must be documented in the medical record. • The depression screening must be reviewed and addressed by the provider, filing the code, on the date of the encounter. Positive pre-screening results indicating a patient is at high risk for self-harm should receive more urgent intervention as determined by the provider practice. • The screening should occur during a qualifying encounter or up to 14 days prior to the date of the qualifying encounter. • The measure assesses the most recent depression screening completed either during the eligible encounter or within the 14 days prior to that encounter. Therefore, a clinician would not be able to complete another screening at the time of the encounter to count towards a follow-up, because that would serve as the most recent screening. In order to satisfy the follow-up requirement for a patient screening positively, the eligible clinician would need to provide one of the aforementioned follow-up actions, which does not include use of a standardized depression screening tool. Follow-Up Plan: The follow-up plan must be related to a positive depression screening, for example: "Patient referred for psychiatric evaluation due to positive depression screening. “Examples of a follow-up plan include but are not limited to: • Referral to a provider or program for further evaluation for depression, for example, referral to a psychiatrist, psychologist, social worker, mental health counselor, or other mental health service such as family or group therapy, support group, depression management program, or other service for treatment of depression • Other interventions designed to treat depression such as behavioral health evaluation, psychotherapy, pharmacological interventions, or additional treatment options • Should a patient screen positive for depression, a clinician should:

	• Only order pharmacological intervention when appropriate and after sufficient diagnostic evaluation. However, for the purposes of this measure, additional screening and assessment during the qualifying encounter will not qualify as a follow-up plan. • Opt to complete a suicide risk assessment when appropriate and based on individual patient characteristics. However, for the purposes of this measure, a suicide risk assessment or additional screening using a standardized tool will not qualify as a follow-up plan.
Initial Population	All patients aged 12 years and older at the beginning of the measurement period with at least one eligible encounter during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Patients who have been diagnosed with depression or with bipolar disorder
Numerator	Patients screened for depression on the date of the encounter or up to 14 days prior to the date of the encounter using an age-appropriate standardized tool AND if positive, a follow-up plan is documented on the date of the eligible encounter
Numerator Exclusions	Not Applicable.
Denominator Exceptions	Patient Reason(s) Patient refuses to participate OR Medical Reason(s) Documentation of medical reason for not screening patient for depression (e.g., cognitive, functional, or motivational limitations that may impact accuracy of results; patient is in an urgent or emergent situation where time is of the essence and to delay treatment would jeopardize the patient's health status)
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.1.2 Data Entry

Description	Percentage of patients aged 12 years and older screened for depression on the date of the encounter using an age-appropriate standardized depression screening tool AND if positive, a follow-up plan is documented on the date of the positive screen.

1. Initial Population and Denominator

   – Create visit for patient age 12+ to meet initial population and denominator. Multiple encounters accepted:

- Encounter to Screen for Depression (Value Set: 2.16.840.1.113883.3.600.1916)
- Physical Therapy Evaluation (Value Set: 2.16.840.1.113883.3.526.3.1022)

2. Denominator Exclusion

   - Patient has active diagnosis of "Depression" (Value Set: 2.16.840.1.113883.3.600.145) or "Bipolar Diagnosis" (Value Set: 2.16.840.1.113883.3.600.450) entered before encounter date in Problem List

3. Denominator Exceptions:

   - No Depression Screening perform because patient refused or because of medical reasons documented via Personal Health component or Exams in Wellness tab in EHR.

4. Numerator:

   - Screen patient for depression (PHQ 2), enter result in Vital Signs,

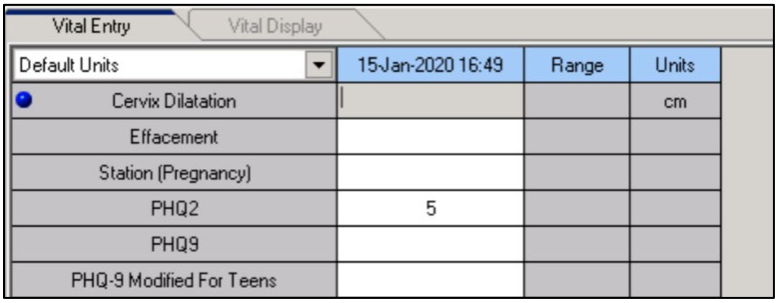


Figure 3-1: Vital Entry tab

OR enter "positive" or "negative" in Exams.

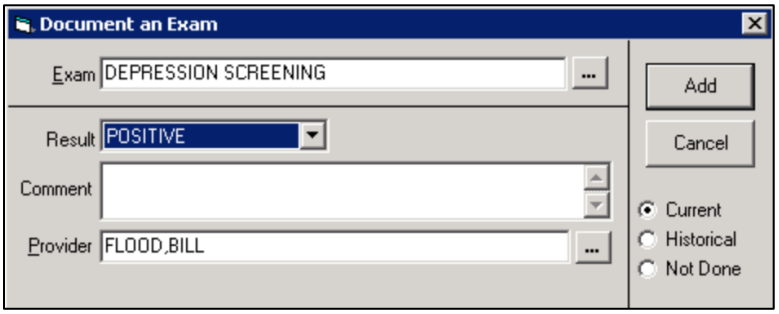


Figure 3-2: Document an Exam dialog

   - If depression screen is Negative (PHQ ≤2 score in vital signs, or "negative" screen in exams), this will be included in numerator.
   - If depression screen is Positive (PHQ ≥3, or "positive" exam), then must document a follow up on same day as encounter in order to be included in numerator. Multiple intervention options available (need only one):
     - Follow Up plan via Treatment/Regimen in Problem List

– Referral or consult to mental health worker.

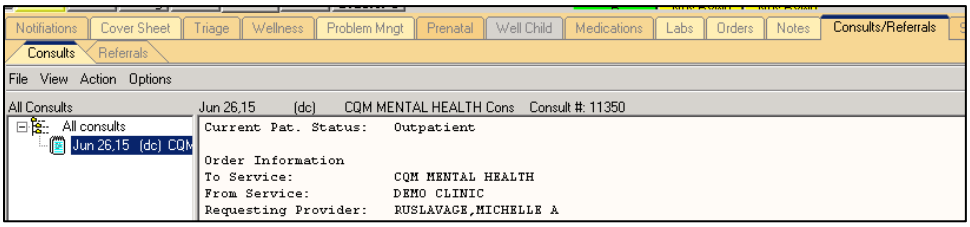


Figure 3-3: Consults tab

– Order medication for depression. See Appendix A on Using Value Sets.
  - (Value Set: 2.16.840.1.113883.3.526.3.1567)-adolescent, or
  - (Value Set: 2.16.840.1.113883.3.526.3.1566) -adult

3.1.3 Terminology

- code "Adolescent depression screening assessment" ("LOINC Code (73831-0)")
- code "Adult depression screening assessment" ("LOINC Code (73832-8)")
- code "Birth date" ("LOINC Code (21112-8)")
- code "Depression screening negative (finding)" ("SNOMEDCT Code (428171000124102)")
- code "Depression screening positive (finding)" ("SNOMEDCT Code (428181000124104)")
- valueset "Adolescent Depression Medications" (2.16.840.1.113883.3.526.3.1567)
- valueset "Adult Depression Medications" (2.16.840.1.113883.3.526.3.1566)
- valueset "Bipolar Diagnosis" (2.16.840.1.113883.3.600.450)
- valueset "Depression Diagnosis" (2.16.840.1.113883.3.600.145)
- valueset "Encounter to Screen for Depression" (2.16.840.1.113883.3.600.1916)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Follow Up for Adolescent Depression" (2.16.840.1.113883.3.526.3.1569)
- valueset "Follow Up for Adult Depression" (2.16.840.1.113883.3.526.3.1568)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Patient Declined" (2.16.840.1.113883.3.526.3.1582)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Physical Therapy Evaluation" (2.16.840.1.113883.3.526.3.1022)

- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Referral for Adolescent Depression" (2.16.840.1.113883.3.526.3.1570)
- valueset "Referral for Adult Depression" (2.16.840.1.113883.3.526.3.1571)

3.1.4 Data Criteria (QDM Data Elements)

- "Assessment, Not Performed: Adolescent depression screening assessment" using "Adolescent depression screening assessment (LOINC Code 73831-0)"
- "Assessment, Not Performed: Adult depression screening assessment" using "Adult depression screening assessment (LOINC Code 73832-8)"
- "Assessment, Performed: Adolescent depression screening assessment" using "Adolescent depression screening assessment (LOINC Code 73831-0)"
- "Assessment, Performed: Adult depression screening assessment" using "Adult depression screening assessment (LOINC Code 73832-8)"
- "Diagnosis: Bipolar Diagnosis" using "Bipolar Diagnosis (2.16.840.1.113883.3.600.450)"
- "Diagnosis: Depression Diagnosis" using "Depression Diagnosis (2.16.840.1.113883.3.600.145)"
- "Encounter, Performed: Encounter to Screen for Depression" using "Encounter to Screen for Depression (2.16.840.1.113883.3.600.1916)"
- "Encounter, Performed: Physical Therapy Evaluation" using "Physical Therapy Evaluation (2.16.840.1.113883.3.526.3.1022)"
- "Intervention, Order: Referral for Adolescent Depression" using "Referral for Adolescent Depression (2.16.840.1.113883.3.526.3.1570)"
- "Intervention, Order: Referral for Adult Depression" using "Referral for Adult Depression (2.16.840.1.113883.3.526.3.1571)"
- "Intervention, Performed: Follow Up for Adolescent Depression" using "Follow Up for Adolescent Depression (2.16.840.1.113883.3.526.3.1569)"
- "Intervention, Performed: Follow Up for Adult Depression" using "Follow Up for Adult Depression (2.16.840.1.113883.3.526.3.1568)"
- "Medication, Order: Adolescent Depression Medications" using "Adolescent Depression Medications (2.16.840.1.113883.3.526.3.1567)"
- "Medication, Order: Adult Depression Medications" using "Adult Depression Medications (2.16.840.1.113883.3.526.3.1566)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.2 CMS22v10 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented

3.2.1 Detail

Percentage of patient visits for patients aged 18 and older seen during the measurement period who were screened for high blood pressure AND a recommended follow-up plan is documented, as indicated, if the blood pressure is pre-hypertensive or hypertensive.

Description	Percentage of patient visits for patients aged 18 years and older seen during the measurement period who were screened for high blood pressure AND a recommended follow-up plan is documented, as indicated, if blood pressure is elevated or hypertensive

Rationale	Hypertension is a prevalent condition that affects approximately 66.9 million people in the United States. It is estimated that about 20-40% of the adult population has hypertension; the majority of people over age 65 have a hypertension diagnosis (Appleton SL, et al., 2012 and Luehr D, et al., 2012). Winter (2013) noted that 1 in 3 American adults have hypertension and the lifetime risk of developing hypertension is 90% (Winter KH, et al., 2013). The African American population or non-Hispanic Blacks, the elderly, diabetics and those with chronic kidney disease are at increased risk of stroke, myocardial infarction and renal disease. Non-Hispanic Blacks have the highest prevalence at 38.6% (Winter KH, et al., 2013). Hypertension is a major risk factor for ischemic heart disease, left ventricular hypertrophy, renal failure, stroke and dementia (Luehr D, et al., 2012). Hypertension is the most common reason for adult office visits other than pregnancy. Garrison (2013) stated that in 2007, 42 million ambulatory visits were attributed to hypertension (Garrison GM and Oberhelman S, 2013). It also has the highest utilization of prescription drugs. Numerous resources and treatment options are available, yet only about 40-50% of the hypertensive patients have their blood pressure under control (<140/90) (Appleton SL, et al., 2012, Luehr D, et al., 2012). In addition to medication non-compliance, poor outcomes are also attributed to poor adherence to lifestyle changes such as a low-sodium diet, weight loss, increased exercise and limiting alcohol intake. Many adults find it difficult to continue medications and lifestyle changes when they are asymptomatic. Symptoms of elevated blood pressure usually do not occur until secondary problems arise such as with vascular diseases (myocardial infarction, stroke, heart failure and renal insufficiency) (Luehr D, et al., 2012). Appropriate follow-up after blood pressure measurement is a pivotal component in preventing the progression of hypertension and the development of heart disease. Detection of marginally or fully elevated blood pressure by a specialty clinician warrants referral to a provider familiar with the management of hypertension and prehypertension. The 2010 ACCF/AHA Guideline for the Assessment of Cardiovascular Risk in Asymptomatic Adults continues to support using a global risk score such as the Framingham Risk Score, to assess risk of coronary heart disease (CHD) in all asymptomatic adults (Greenland P, et al., 2010). Lifestyle modifications have demonstrated effectiveness in lowering blood pressure (JNC 7, 2003). The synergistic effect of several lifestyle modifications results in greater benefits than a single modification alone. Baseline diagnostic/laboratory testing establishes if a co-existing underlying condition is the etiology of hypertension and evaluates if end organ damage from hypertension has already occurred. Landmark trials such as ALLHAT have repeatedly proven the efficacy of pharmacologic therapy to control blood pressure and reduce the complications of hypertension. Follow-up intervals based on blood pressure control have been established by the JNC 7 and the USPSTF.
Definition	Blood Pressure (BP) Classification: BP is defined by four (4) BP reading classifications: Normal, Elevated, First Hypertensive, and Second Hypertensive Readings * Normal BP: Systolic BP (SBP) < 120 mmHg AND Diastolic BP (DBP) < 80 mmHg * Elevated BP: SBP of 120-129 mmHg AND DBP < 80 mmHg

	* First Hypertensive Reading: SBP of >= 130 mmHg OR DBP of >= 80 mmHg without a previous SBP of >= 130 mmHg OR DBP of >= 80 mmHg during the 12 months prior to the encounter * Second Hypertensive Reading: Requires a SBP >= 130 mmHg OR DBP >= 80 mmHg during the current encounter AND a most recent BP reading within the last 12 months SBP >= 130 mmHg OR DBP >= 80 mmHg Recommended BP Follow-Up: The 2017 Guideline for the Prevention, Detection, Evaluation and Management of High Blood Pressure in Adults from the American College of Cardiology and American Heart Association (2017 Guideline) recommends BP screening thresholds as defined under Blood Pressure Classifications and recommends interventions based on the current BP reading as listed in the "Recommended Blood Pressure Follow-Up Interventions" below. The types of Recommended Nonpharmacologic Interventions, such as lifestyle modifications, are listed following the section on Recommended Follow-Up Interventions based on BP Classification. Recommended Blood Pressure Follow-Up Interventions: * Normal BP: No follow-up required for SBP < 120 mmHg AND DBP < 80 mmHg * Elevated BP: Patients with SBP of 120-129 mmHg AND DBP < 80 mmHg: * Referral to Alternate/Primary Care Health Care Professional OR * Follow-up with rescreen in 2 to 6 months AND recommend nonpharmacologic interventions * First Hypertensive BP Reading: Patients with one elevated reading of SBP >= 130 mmHg OR DBP >= 80 mmHg: * Referral to Alternate/Primary Care Health Care Professional OR * Follow-up with rescreen > 1 day and < 4 weeks AND recommend nonpharmacologic interventions * Second Hypertensive BP Reading: - Second Hypertensive BP Reading: Patients with second elevated reading of SBP of 130-139 mmHg OR DBP of 80-89 mmHg: * Referral to Alternate/Primary Care Healthcare Professional OR * Nonpharmacologic intervention AND reassessment in 2-6 months AND an order for a laboratory test or ECG for hypertension - Second Hypertensive BP Reading: SBP>=140 or DBP>=90: * Referral to Alternate/Primary Care Healthcare Professional OR * Nonpharmacologic intervention AND BP-lowering medication AND reassessment within 4 weeks AND an order for a laboratory test or ECG for hypertension The 2017 Guideline outlines nonpharmacologic interventions (lifestyle modifications) which must include one or more of the following as indicated: Weight Reduction * Dietary Approaches to Stop Hypertension (DASH) Eating Plan * Dietary Sodium Restriction * Increased Physical Activity * Moderation in alcohol (ETOH) Consumption

Guidance	This eCQM is an episode-based measure. An episode is defined as each eligible encounter for patients aged 18 years and older during the measurement period. This measure should be reported for every visit. The measure requires that blood pressure measurements (i.e., diastolic and systolic) be obtained during each visit in order to determine the blood pressure reading used to evaluate if an intervention is needed. Both the systolic and diastolic blood pressure measurements are required for inclusion. If there are multiple blood pressures obtained during a patient visit, only the last, or most recent, pressure measurement will be used to evaluate the measure requirements. The intent of this measure is to screen patients for high blood pressure and provide recommended follow-up as indicated. The documented follow-up plan must be related to the current blood pressure reading as indicated, example: "Patient referred to primary care provider for BP management." Telehealth encounters are not eligible for this measure because the measure requires a clinical action that cannot be conducted via telehealth.
Initial Population	All patient visits for patients aged 18 years and older at the beginning of the measurement period
Denominator	Equals Initial Population
Denominator Exclusions	Patient has an active diagnosis of hypertension.
Numerator	Patient visits where patients were screened for high blood pressure AND have a recommended follow-up plan documented, as indicated, if the blood pressure is elevated or hypertensive.
Numerator Exclusions	Not applicable
Denominator Exceptions	Documentation of medical reason(s) for not screening for high blood pressure (e.g., patient is in an urgent or emergent medical situation where time is of the essence and to delay treatment would jeopardize the patient's health status). Documentation of patient reason(s) for not screening for blood pressure measurements or for not ordering an appropriate follow-up intervention if patient BP is elevated or hypertensive (e.g., patient refuses).
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

3.2.2 Data Entry

Description	Percentage of patient visits for patients aged 18 years and older seen during the measurement period who were screened for high blood pressure AND a recommended follow-up plan is documented, as indicated, if blood pressure is pre-hypertensive or hypertensive

1. Enter encounter, patient age 18+

(Multiple OPD encounters accepted, (Value Set: 2.16.840.1.113883.3.600.1920).

See Appendix A on Using Value Sets.

2. Exclusion if patient has an active diagnosis of hypertension.

3. Exceptions:

- Patient reasons for not screening or ordering appropriate follow-up intervention (e.g. Patient refusal. Document in Personal Health component – refusals - measurements - BP with reason "Refusal of Treatment by Patient").

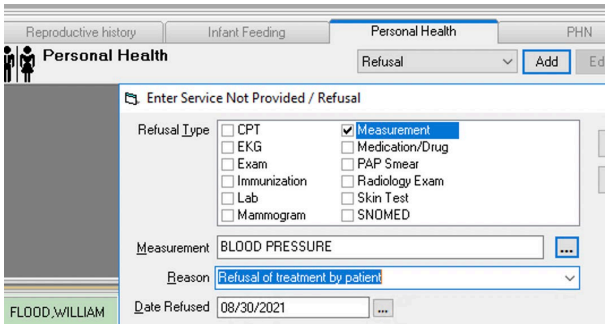


Figure 3-4: Personal Health tab

- Medical Reasons: Patient is in an urgent or emergent situation where time is of the essence and to delay treatment would jeopardize the patient's health status. (2.16.840.1.113883.3.526.3.1007)

Document Blood Pressure, enter into Vital Signs. Note that only the most recent entry for a visit will be used to evaluate the measure requirements.

- If BP is normal (systolic <120 mmHg AND diastolic <80 mmHg), no follow-up required

- If BP is Elevated (systolic 120-129 AND diastolic < 80)

– Referral to Alternate/Primary Healthcare Professional (Use RCIS for referral, purpose = hypertension diagnosis from IPL OR
– Follow-up with rescreen in 2-6 months (Enter in TREG)

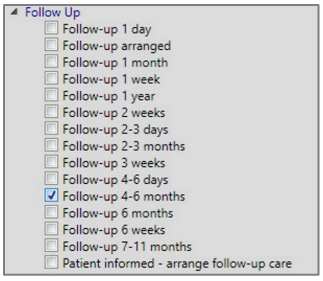


Figure 3-5 :Follow-up options

AND

– Recommend nonpharmacologic interventions

- Nonpharmacologic interventions (lifestyle modifications) must include one or more of the following as indicated:
  - Weight Reduction (Patient Ed-Obesity-Nutrition Education or TREG Weight Management)
  - Dietary Approaches to Stop Hypertension (DASH) Eating Plan (Patient Ed-Obesity-Nutrition or TREG weight management)

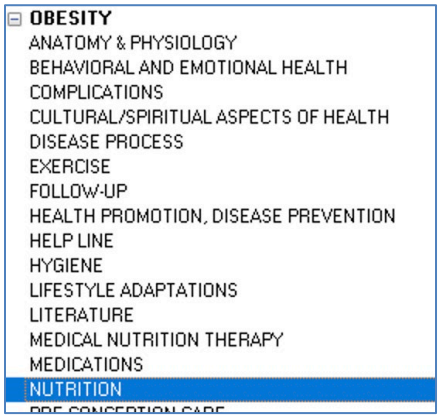


Figure 3-6: Obesity options

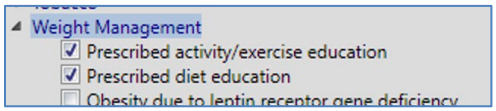


Figure 3-7: Weight management options

  - Dietary Sodium Restriction (Document in Patient Education – Hypertension – Nutrition)

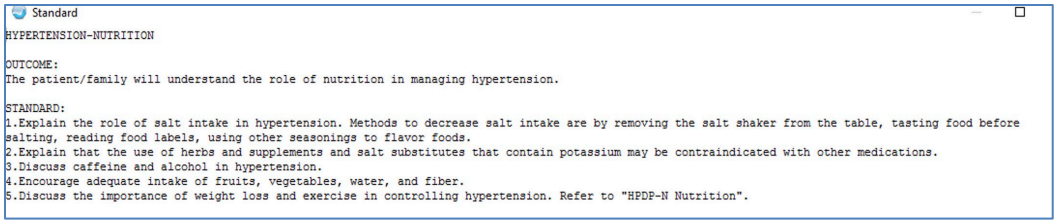


Figure 3-8: Hypertension Nutrition

– Increased Physical Activity (Document in Patient Education – Hypertension – Exercise or Nutrition, or TREG weight management)

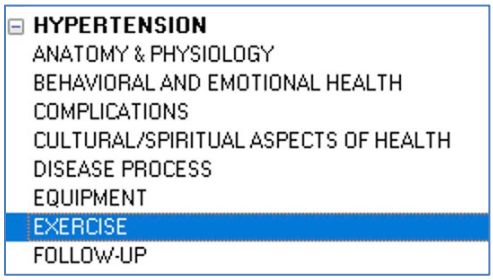


Figure 3-9: Hypertension options

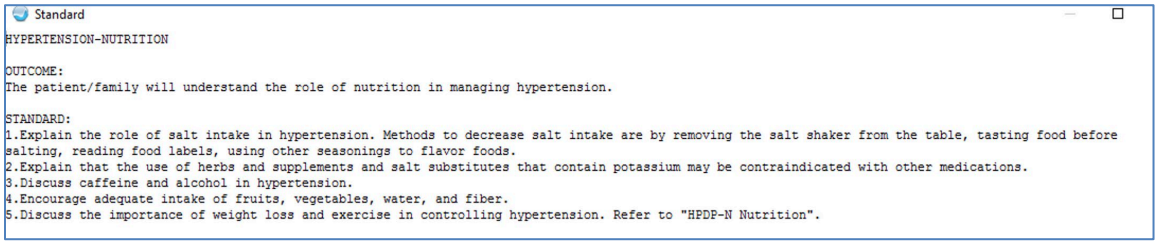


Figure 3-10: Hypertension Nutrition

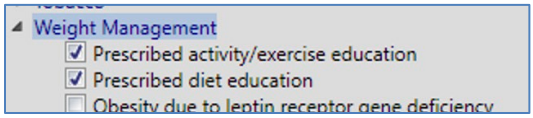


Figure 3-11: Weight Management options

– Moderation in alcohol (ETOH) Consumption (Document in Patient Education – Hypertension – Nutrition)

- If this is patients First Hypertensive Reading within the past year (systolic >130 OR diastolic >80)
  - Referral to Alternate/Primary Healthcare Professional OR
  - Follow-up with rescreen <4 weeks AND
  - Recommend nonpharmacologic interventions
- If this is patient's Second elevated reading
  - If Second Systolic 130-139 OR Diastolic 80-89

- Referral to Alternate/Primary Healthcare Professional OR
- Nonpharmacologic intervention AND
  - Reassessment in 2-6 months AND
  - Laboratory test or ECG for hypertension ("Laboratory Tests for Hypertension" (2.16.840.1.113883.3.600.1482))
  - If Second Systolic > 140 OR Diastolic >90
- Referral to Alternate/Primary Healthcare Professional OR
- Nonpharmacologic intervention AND
- BP-lowering medication ("Pharmacologic Therapy for Hypertension" (2.16.840.1.113883.3.526.1577)). Must process in Pharmacy so order status = active.

  AND

- Laboratory test or ECG for hypertension ("Laboratory Tests for Hypertension" (2.16.840.1.113883.3.600.1482))

3.2.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Diastolic blood pressure" ("LOINC Code (8462-4)")
- code "EKG 12 channel panel" ("LOINC Code (34534-8)")
- code "EKG study" ("LOINC Code (11524-6)")
- code "Follow-up 2-3 months (finding)" ("SNOMEDCT Code (183624006)")
- code "Follow-up 4-6 months (finding)" ("SNOMEDCT Code (183625007)")
- code "Systolic blood pressure" ("LOINC Code (8480-6)")
- valueset "Diagnosis of Hypertension" (2.16.840.1.113883.3.600.263)
- valueset "Dietary Recommendations" (2.16.840.1.113883.3.600.1515)
- valueset "Encounter to Screen for Blood Pressure" (2.16.840.1.113883.3.600.1920)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Finding of Elevated Blood Pressure or Hypertension" (2.16.840.1.113762.1.4.1047.514)
- valueset "Follow Up Within 4 Weeks" (2.16.840.1.113883.3.526.3.1578)
- valueset "Laboratory Tests for Hypertension" (2.16.840.1.113883.3.600.1482)
- valueset "Lifestyle Recommendation" (2.16.840.1.113883.3.526.3.1581)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Patient Declined" (2.16.840.1.113883.3.526.3.1582)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pharmacologic Therapy for Hypertension" (2.16.840.1.113883.3.526.1577)
- valueset "Race" (2.16.840.1.114222.4.11.836)

- valueset "Recommendation to Increase Physical Activity" (2.16.840.1.113883.3.600.1518)
- valueset "Referral or Counseling for Alcohol Consumption" (2.16.840.1.113883.3.526.3.1583)
- valueset "Referral to Primary Care or Alternate Provider" (2.16.840.1.113883.3.526.3.1580)
- valueset "Weight Reduction Recommended" (2.16.840.1.113883.3.600.1510)

3.2.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Diagnosis of Hypertension" using "Diagnosis of Hypertension (2.16.840.1.113883.3.600.263)"
- "Diagnostic Study, Not Ordered: EKG 12 channel panel" using "EKG 12 channel panel (LOINC Code 34534-8)"
- "Diagnostic Study, Not Ordered: EKG study" using "EKG study (LOINC Code 11524-6)"
- "Diagnostic Study, Order: EKG 12 channel panel" using "EKG 12 channel panel (LOINC Code 34534-8)"
- "Diagnostic Study, Order: EKG study" using "EKG study (LOINC Code 11524-6)"
- "Encounter, Performed: Encounter to Screen for Blood Pressure" using "Encounter to Screen for Blood Pressure (2.16.840.1.113883.3.600.1920)"
- "Intervention, Not Ordered: Dietary Recommendations" using "Dietary Recommendations (2.16.840.1.113883.3.600.1515)"
- "Intervention, Not Ordered: Follow Up Within 4 Weeks" using "Follow Up Within 4 Weeks (2.16.840.1.113883.3.526.3.1578)"
- "Intervention, Not Ordered: Follow-up 2-3 months (finding)" using "Follow-up 2-3 months (finding) (SNOMEDCT Code 183624006)"
- "Intervention, Not Ordered: Follow-up 4-6 months (finding)" using "Follow-up 4-6 months (finding) (SNOMEDCT Code 183625007)"
- "Intervention, Not Ordered: Lifestyle Recommendation" using "Lifestyle Recommendation (2.16.840.1.113883.3.526.3.1581)"
- "Intervention, Not Ordered: Recommendation to Increase Physical Activity" using "Recommendation to Increase Physical Activity (2.16.840.1.113883.3.600.1518)"
- "Intervention, Not Ordered: Referral or Counseling for Alcohol Consumption" using "Referral or Counseling for Alcohol Consumption (2.16.840.1.113883.3.526.3.1583)"
- "Intervention, Not Ordered: Referral to Primary Care or Alternate Provider" using "Referral to Primary Care or Alternate Provider (2.16.840.1.113883.3.526.3.1580)"
- "Intervention, Not Ordered: Weight Reduction Recommended" using "Weight Reduction Recommended (2.16.840.1.113883.3.600.1510)"
- "Intervention, Order: Dietary Recommendations" using "Dietary Recommendations (2.16.840.1.113883.3.600.1515)"

- "Intervention, Order: Follow Up Within 4 Weeks" using "Follow Up Within 4 Weeks (2.16.840.1.113883.3.526.3.1578)"
- "Intervention, Order: Follow-up 2-3 months (finding)" using "Follow-up 2-3 months (finding) (SNOMEDCT Code 183624006)"
- "Intervention, Order: Follow-up 4-6 months (finding)" using "Follow-up 4-6 months (finding) (SNOMEDCT Code 183625007)"
- "Intervention, Order: Lifestyle Recommendation" using "Lifestyle Recommendation (2.16.840.1.113883.3.526.3.1581)"
- "Intervention, Order: Recommendation to Increase Physical Activity" using "Recommendation to Increase Physical Activity (2.16.840.1.113883.3.600.1518)"
- "Intervention, Order: Referral or Counseling for Alcohol Consumption" using "Referral or Counseling for Alcohol Consumption (2.16.840.1.113883.3.526.3.1583)"
- "Intervention, Order: Referral to Primary Care or Alternate Provider" using "Referral to Primary Care or Alternate Provider (2.16.840.1.113883.3.526.3.1580)"
- "Intervention, Order: Weight Reduction Recommended" using "Weight Reduction Recommended (2.16.840.1.113883.3.600.1510)"
- "Laboratory Test, Not Ordered: Laboratory Tests for Hypertension" using "Laboratory Tests for Hypertension (2.16.840.1.113883.3.600.1482)"
- "Laboratory Test, Order: Laboratory Tests for Hypertension" using "Laboratory Tests for Hypertension (2.16.840.1.113883.3.600.1482)"
- "Medication, Not Ordered: Pharmacologic Therapy for Hypertension" using "Pharmacologic Therapy for Hypertension (2.16.840.1.113883.3.526.1577)"
- "Medication, Order: Pharmacologic Therapy for Hypertension" using "Pharmacologic Therapy for Hypertension (2.16.840.1.113883.3.526.1577)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Not Performed: Diastolic blood pressure" using "Diastolic blood pressure (LOINC Code 8462-4)"
- "Physical Exam, Not Performed: Systolic blood pressure" using "Systolic blood pressure (LOINC Code 8480-6)"
- "Physical Exam, Performed: Diastolic blood pressure" using "Diastolic blood pressure (LOINC Code 8462-4)"
- "Physical Exam, Performed: Systolic blood pressure" using "Systolic blood pressure (LOINC Code 8480-6)"

3.3 CMS50v10 Closing the Referral Loop: Receipt of Specialist Report

3.3.1 Detail

Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred.

Description	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred.

Rationale	Problems in the outpatient referral and consultation process have been documented, including lack of timeliness of information and inadequate provision of information between the specialist and the requesting physician (Gandhi et al., 2000; Forrest et al., 2000; Stille, Jerant, Bell, Meltzer, & Elmore, 2005). In a study of physician satisfaction with the outpatient referral process, Gandhi et al. (2000) found that 68% of specialists reported receiving no information from the primary care provider prior to referral visits, and 25% of primary care providers had still not received any information from specialists 4 weeks after referral visits. In another study of 963 referrals (Forrest et al., 2000), pediatricians scheduled appointments with specialists for only 39% and sent patient information to the specialists in only 51% of the time. In a 2006 report to Congress, the Medicare Payment Advisory Commission (MedPAC) found that care coordination programs improved quality of care for patients, reduced hospitalizations, and improved adherence to evidence-based care guidelines, especially among patients with diabetes and CHD. Associations with cost-savings were less clear; this was attributed to how well the intervention group was chosen and defined, as well as the intervention put in place. Additionally, cost-savings were usually calculated in the short-term, while some argue that the greatest cost-savings accrue over time (MedPAC, 2006). Improved mechanisms for information exchange could facilitate communication between providers, whether for time-limited referrals or consultations, on-going co-management, or during care transitions. For example, a study by Branger, van't Hooft, van der Wouden, Moorman & van Bemmel (1999) found that an electronic communication network that linked the computer-based patient records of physicians who had shared care of patients with diabetes significantly increased frequency of communications between physicians and availability of important clinical data. There was a 3-fold increase in the likelihood that the specialist provided written communication of results if the primary care physician scheduled appointments and sent patient information to the specialist (Forrest et al., 2000). Care coordination is a focal point in the current health care reform and our nation's ambulatory health information technology (HIT) framework. The National Priorities Partnership (2008) recently highlighted care coordination as one of the most critical areas for development of quality measurement and improvement.
Definition	Referral: A request from one physician or other eligible provider to another practitioner for evaluation, treatment, or co-management of a patient's condition. This term encompasses referral and consultation as defined by Centers for Medicare & Medicaid Services. Report: A written document prepared by the eligible clinician (and staff) to whom the patient was referred and that accounts for his or her findings, provides summary of care information about findings, diagnostics, assessments and/or plans of care, and is provided to the referring eligible clinician.

Guidance	The provider who refers the patient to another provider is the provider who should be held accountable for the performance of this measure. The provider to whom the patient was referred should be the same provider that sends the report. If there are multiple referrals for a patient during the measurement period, use the first referral. The provider to whom the patient was referred is responsible for sending the consultant report that will fulfill the communication. Note: this is not the same provider who would report on the measure. The consultant report that will successfully close the referral loop should be related to the first referral for a patient during the measurement period. If there are multiple consultant reports received by the referring provider which pertain to a particular referral, use the first consultant report to satisfy the measure. Eligible professionals or eligible clinicians reporting on this measure should note that all data for the reporting year is to be submitted by the deadline established by CMS. Therefore, eligible professionals or eligible clinicians who refer patients towards the end of the reporting period (i.e., November - December), should request that providers to whom they referred their patients share their consult reports as soon as possible in order for those patients to be counted in the measure numerator during the measurement period. When providers to whom patients are referred communicate the consult report as soon as possible with the referring providers, it ensures that the communication loop is closed in a timely manner and that the data are included in the submission to CMS.
Initial Population	Number of patients, regardless of age, who had a visit during the measurement period and were referred by one provider to another provider.
Denominator	Equals Initial Population.
Denominator Exclusions	None.
Numerator	Number of patients with a referral, for which the referring provider received a report from the provider to whom the patient was referred.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.3.2 Data Entry

Description	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred.

1. Patient visit during measurement period (any age), face to face encounter.
2. Multiple OPD encounters accepted.
3. Ophthalmology (Value Set 2.16.840.1.113883.3.526.3.1285).
4. Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1022, …1023, ...1024, …1025)
5. Office visits (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001)

See Appendix A on using Value Sets.

6. Referral made anytime during measurement period (RCIS).

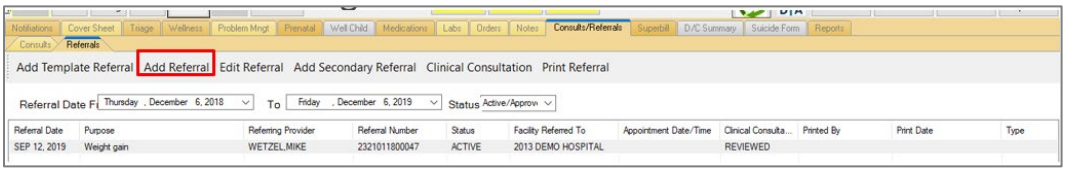


Figure 3-12: Add Referral pane

7. Patient visits referred provider, consult report completed.
8. Report received, attached to note with provider identified as signer, signed as received by provider (RCIS).

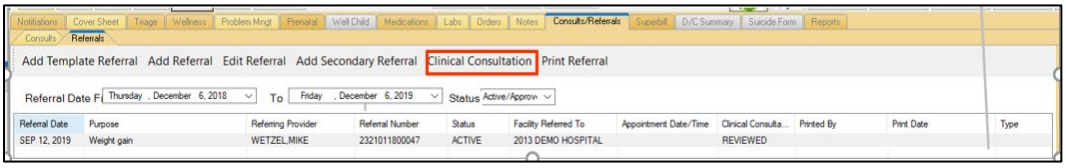


Figure 3-13 :Clinical Consultation pane

9. Close out referral in RPMS, Referral Management, Close Out Referral, Current Fiscal Year.

3.3.3 Terminology

- valueset "Consultant Report" (2.16.840.1.113883.3.464.1003.121.12.1006)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Ophthalmological Services" (2.16.840.1.113883.3.526.3.1285)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)

- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Referral" (2.16.840.1.113883.3.464.1003.101.12.1046)

3.3.4 Data Criteria (QDM Data Elements)

- "Communication, Performed: Consultant Report" using "Consultant Report (2.16.840.1.113883.3.464.1003.121.12.1006)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Ophthalmological Services" using "Ophthalmological Services (2.16.840.1.113883.3.526.3.1285)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)"
- "Intervention, Order: Referral" using "Referral (2.16.840.1.113883.3.464.1003.101.12.1046)"
- "Intervention, Performed: Referral" using "Referral (2.16.840.1.113883.3.464.1003.101.12.1046)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"

- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.4 CMS69v10 Preventive Care and Screening: BMI Screening and Follow-Up Plan

3.4.1 Detail

Description	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or within the previous twelve months AND who had a follow-up plan documented if most recent BMI was outside of normal parameters Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2.

Rationale	BMI Above Normal Parameters Obesity is a chronic, multifactorial disease with complex psychological, environmental (social and cultural), genetic, physiologic, metabolic and behavioral causes and consequences. The prevalence of overweight and obese people is increasing worldwide at an alarming rate in both developing and developed countries. Environmental and behavioral changes brought about by economic development, modernization and urbanization have been linked to the rise in global obesity. The health consequences are becoming apparent" (Fitch et al., 2013). More than a third of U.S. adults have a body mass index [BMI] >= 30 kg/m2 and are at increased risk for diabetes, cardiovascular disease (CVD), and obstructive sleep apnea (Flegal et al., 2012; Ogden et al., 2015; Dong et al., 2020). Hales et al. (2017), reported that the prevalence of obesity among adults and youth in the United States was 39.8 percent and 18.5 percent respectively, from 2015-2016. Furthermore, the prevalence of obesity in adults increased to 42.4 percent in 2018, with the highest percentage among adults in the 40-59 age bracket compared with other age groups (Hales et al., 2020). Hales et al. (2020) also disaggregated the data according to race/ethnicity and noted that obesity prevalence was higher among non-Hispanic Black adults and Hispanic adults when compared with other races and ethnicities. Obesity prevalence was lowest among non-Hispanic Asian men and women. Among men, obesity prevalence was higher among Hispanic men compared with non-Hispanic Black men and non-Hispanic White men. Among women, the prevalence among non-Hispanic Black women was 56.9 percent, which was higher than all other race/ethnicities. In general, the prevalence of obesity in the U.S. remains higher than the Healthy People 2020 goals of 30.5 percent among adults (Hales et al., 2020). BMI continues to be a common and reasonably reliable measurement to identify overweight and obese adults who may be at an increased risk for future morbidity. Although good quality evidence supports obtaining a BMI, it is important to recognize it is not a perfect measurement. For example, BMI and its associated disease and mortality risk appear to vary among ethnic subgroups. Black/African Americans appear to have the lowest mortality risk at a BMI of 26.2-28.5 kg/m2 in Black women and 27.1-30.2 kg/m2 in Black men. In contrast, Asian populations may experience lowest mortality rates starting at a BMI of 23 to 24 kg/m2. The correlation between BMI and diabetes risk also varies by ethnicity (LeBlanc et al., 2011, pp. 2-3). BMI is not a direct measure of adiposity and as a consequence, it can over or underestimate adiposity. However, overall, BMI is a derived value that correlates well with total body fat and markers of secondary complications, e.g., hypertension and dyslipidemia (Barlow & the Expert Committee, 2007). It is important to enhance beneficiary access to appropriate treatments for obesity, which could result in decreased healthcare costs and lower obesity rates. Behavioral weight management treatment has been identified as an effective first-line treatment for obesity with an average initial weight loss of 8-10 percent. This percentage weight loss is associated with a significant risk reduction for diabetes and CVD (Wadden, Butryn & Wilson, 2007). Evidence also shows that when

	provided 14 or more high-intensity behavioral intervention sessions of face-to-face individual or group treatment across 6 months, participants lose up to 8 percent of their weight during that time and experience improvements in heart disease risk factors and quality of life (Wadden, Tronieri, & Butryn, 2020). There is also evidence that high-intensity behavioral counseling is effective, whether delivered in-person, by phone, or electronically (Tronieri et al., 2019). Moreover, Intensive Behavioral Therapy (IBT) for obesity provided by Registered Dietitian Nutritionists for 6-12 months shows significant mean weight loss of up to 10 percent of body weight, maintained over one year's time (Raynor & Champagne, 2016). Despite the evidence that supports weight management counseling, the rate of use in primary care for patients with obesity decreased by 10 percent from 39.9 percent in 1995-1996 to 29.9 percent in 2007-2008 (Kraschnewski et al., 2013). Weight management counseling during primary care visits further declined from 33 percent to 21 percent between 2008-2009 and 2012-2013. This suggests that obesity management in primary care remains suboptimal (Fitzpatrick & Stevens, 2017). Therefore, screening for BMI and follow-up is critical and will help in reaching the quality goals of population health and cost reduction. However, due to concerns for other underlying conditions (such as bone health) or nutrition-related deficiencies, providers are cautioned to use their best clinical judgment when considering weight management programs for overweight patients, especially the elderly (National Heart, Lung, and Blood Institute [NHLBI] Obesity Education Initiative, 1998, p. 91). BMI below Normal Parameters On the other end of the body weight spectrum is underweight (BMI < 18.5 kg/m2), which is equally detrimental to population health. When compared to normal weight individuals (BMI 18.5-25 kg/m2), underweight individuals have significantly higher death rates with a Hazard Ratio of 2.27 and 95 percent confidence intervals (CI) = 1.78, 2.90 (Borrell & Samuel, 2014). Poor nutrition or underlying health conditions can result in underweight (Fryar & Ogden, 2012). The National Health and Nutrition Examination Survey (NHANES) results from 2007-2010 indicate that women are more likely to be underweight than men (Centers for Disease Control and Prevention, 2012). However, all patients should be equally screened for underweight and followed up with nutritional counseling to reduce mortality and morbidity associated with underweight.

Clinical Recommendation Statement	All adults should be screened annually using a BMI measurement. BMI measurements >= 25 kg/m2 should be used to initiate further evaluation of overweight or obesity after taking into account age, gender, ethnicity, fluid status, and muscularity; therefore, clinical evaluation and judgment must be used when BMI is employed as the anthropometric indicator of excess adiposity, particularly in athletes and those with sarcopenia (Garvey et al., 2016 AACE/ACE Guidelines, 2016, pp. 12-13) (Grade A). Overweight and Underweight Categories: Underweight < 18.5; Normal weight 18.5-24.9; Overweight 25-29.9; Obese class I 30-34.9; Obese class II 35-39.9; Obese class III >= 40 (Garvey et al., 2016 AACE/ACE Guidelines, 2016, p. 15). BMI cutoff point value of >= 23 kg/m2 should be used in the screening and confirmation of excess adiposity in Asian adults (Garvey et al., 2016 AACE/ACE Guidelines, 2016, p. 13) (Grade B). Lifestyle/Behavioral Therapy for Overweight and Obesity should include behavioral interventions that enhance adherence to prescriptions for a reduced-calorie meal plan and increased physical activity (behavioral interventions can include: self-monitoring of weight, food intake, and physical activity; clear and reasonable goal-setting; education pertaining to obesity, nutrition, and physical activity; face-to-face and group meetings; stimulus control; systematic approaches for problem solving; stress reduction; cognitive restructuring [i.e., cognitive behavioral therapy], motivational interviewing; behavioral contracting; psychological counseling; and mobilization of social support structures) (Garvey et al., 2016 AACE/ACE Guidelines, 2016, p. 22) (Grade A). Behavioral lifestyle intervention should be tailored to a patient's ethnic, cultural, socioeconomic, and educational background (Garvey et al., 2016 AACE/ACE Guidelines, 2016, p. 22) (Grade B). The USPSTF recommends that clinicians offer or refer adults with a body mass index (BMI) of 30 kg/m2 or higher to intensive, multicomponent behavioral interventions (USPSTF, 2018) (Grade B). Interventions: - Effective intensive behavioral interventions were designed to help participants achieve or maintain a >= 5% weight loss through a combination of dietary changes and increased physical activity - Most interventions lasted for 1 to 2 years, and the majority had >= 12 sessions in the first year - Most behavioral interventions focused on problem solving to identify barriers, self-monitoring of weight, peer support, and relapse prevention - Interventions also provided tools to support weight loss or weight loss maintenance (e.g., pedometers, food scales, or exercise videos) (USPSTF, 2018) Nutritional safety for the elderly should be considered when recommending weight reduction. "A clinical decision to forego obesity treatment in older adults should be guided by an evaluation of the potential benefits of weight reduction for day-to-day functioning and reduction of the risk of future cardiovascular events, as well as the

	patient's motivation for weight reduction. Care must be taken to ensure that any weight reduction program minimizes the likelihood of adverse effects on bone health or other aspects of nutritional status" (NHLBI Obesity Education Initiative, 1998, p. 91) (Evidence Category D). In addition, weight reduction prescriptions in older persons should be accompaniedby proper nutritional counseling and regular body weight monitoring (NHLBI Obesity Education Initiative, 1998, p. 91). The possibility that a standard approach to weight loss will work differently in diverse patient populations must be considered when setting expectations about treatment outcomes (NHLBI Obesity Education Initiative, 1998, p. 97) (Evidence Category B).
Definition	Normal BMI Parameters: Age 18 years and older BMI >= 18.5 and < 25 kg/m2 BMI- Body mass index (BMI) is a number calculated using the Quetelet index: weight divided by height squared (W/H2) and is commonly used to classify weight categories. BMI can be calculated using: Metric Units: BMI = Weight (kg) / (Height (m) x Height (m)) OR English Units: BMI = Weight (lbs.) / (Height (in) x Height (in)) x 3 Follow-Up Plan - Proposed outline of treatment to be conducted as a result of a BMI out of normal parameters. A follow-up plan may include, but is not limited to: documentation of education, referral (for example a Registered Dietitian Nutritionist (RDN), occupational therapist, physical therapist, primary care provider, exercise physiologist, mental health professional, or surgeon) for lifestyle/behavioral therapy, pharmacological interventions, dietary supplements, exercise counseling and/or nutrition counseling.

Guidance	BMI Measurement Guidance: * Height and Weight - An eligible professional or their staff is required to measure both height and weight. Both height and weight must be measured within twelve months of the current encounter and may be obtained from separate encounters. Self-reported values cannot be used. * The BMI may be documented in the medical record of the provider or in outside medical records obtained by the provider. * If the most recent documented BMI is outside of normal parameters, then a follow-up plan is documented during the encounter or during the previous twelve months of the current encounter. * If more than one BMI is reported during the measurement period, the most recent BMI will be used to determine if the performance has been met. * Review the exclusions and exceptions criteria to determine those patients that BMI measurement may not be appropriate or necessary. Follow-Up Plan Guidance: * The documented follow-up plan must be based on the most recent documented BMI, outside of normal parameters, example: "Patient referred to nutrition counseling for BMI above or below normal parameters." (See Definitions for examples of follow-up plan treatments). Variation has been noted in studies exploring optimal BMI ranges for the elderly (see Donini et al., [2012]; Holme & Tonstad [2015]; Diehr et al. [2008]). Notably however, all these studies have arrived at ranges that differ from the standard range for ages 18 and older, which is >=18.5 and < 25 kg/m2. For instance, both Donini et al. (2012) and Holme and Tonstad (2015) reported findings that suggest that higher BMI (higher than the upper end of 25kg/m2) in the elderly may be beneficial. Similarly, worse outcomes have been associated with being underweight (at a threshold higher than 18.5 kg/m2) at age 65 (Diehr et al. 2008). Because of optimal BMI range variation recommendations from these studies, no specific optimal BMI range for the elderly is used. However, it may be appropriate to exempt certain patients from a follow-up plan by applying the exception criteria. See denominator exception section for examples. * This eCQM is a patient-based measure. This measure is to be reported a minimum of once per reporting period for patients seen during the reporting period. * This measure may be reported by eligible professionals who perform the quality actions described in the measure based on the services provided at the time of the qualifying encounter and the measure-specific denominator coding. Telehealth encounters are not eligible for this measure because the measure requires a clinical action that cannot be conducted via telehealth.

Initial Population	All patients 18 and older on the date of the encounter with at least one eligible encounter during the measurement period.
Denominator	Equals Initial Population
Denominator Exclusions	Patients who are pregnant Patients receiving palliative or hospice care
Numerator	Patients with a documented BMI during the encounter or during the previous twelve months, AND when the BMI is outside of normal parameters, a follow-up plan is documented during the encounter or during the previous twelve months of the current encounter
Numerator Exclusions	Not Applicable
Denominator Exceptions	Patients with a documented medical reason for not documenting BMI or for not documenting a follow-up plan for a BMI outside normal parameters (e.g., elderly patients 65 years of age or older for whom weight reduction/weight gain would complicate other underlying health conditions such as illness or physical disability, mental illness, dementia, confusion, or nutritional deficiency such as vitamin/mineral deficiency; patients in an urgent or emergent medical situation where time is of the essence and to delay treatment would jeopardize the patient's health status) Patients who refuse measurement of height and/or weight
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.4.2 Data Entry

Description	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous twelve months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous twelve months of the current encounter. Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2.

1. Visit, patient age 18+.

2. Multiple encounter codes accepted, including dental, medical, counseling visits (Value Set 2.16.840.1.113883.3.600.1.1751). See Appendix A on using Value Sets.

3. Exclude patients with pregnancy diagnosis, palliative care diagnosis (e.g., hospice, comfort measures in IPL), patient refusals.

4. Document height and weight during visit or anytime in previous 12 months. Height and weight do not need to be measured on same date. System calculates BMI for most recent measurement pair.

5. If BMI outside of normal range (18.5-25 kg/m2) then must perform intervention, either during present encounter or during the 12 months prior to the present encounter. Multiple possible interventions:

   - Refer or consult dietician, diagnosis “overweight” or “underweight”, POV for visit of over or underweight
   - Education code, prescribed diet education for obesity (MNT) or check Ed button on IPL for underweight or obesity related to POV
   - Order medication for overweight (Value Set: 2.16.840.1.113883.3.600.1.1498), or underweight (Value Set: 2.16.840.1.113883.3.600.1.1499)
   - If document patient refusal (wellness tab – personal health) for medical reason/contraindication, will be a denominator exception and not included

3.4.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Body mass index (BMI) [Ratio]" ("LOINC Code (39156-5)")
- code "Encounter for palliative care" ("ICD10CM Code (Z51.5)")
- code "Underweight (finding)" ("SNOMEDCT Code (248342006)")
- valueset "Encounter to Evaluate BMI" (2.16.840.1.113883.3.600.1.1751)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Follow Up for Above Normal BMI" (2.16.840.1.113883.3.600.1.1525)
- valueset "Follow Up for Below Normal BMI" (2.16.840.1.113883.3.600.1.1528)
- valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.526.3.1584)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "Medications for Above Normal BMI" (2.16.840.1.113883.3.526.3.1561)
- valueset "Medications for Below Normal BMI" (2.16.840.1.113883.3.526.3.1562)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Overweight or Obese" (2.16.840.1.113762.1.4.1047.502)
- valueset "Palliative or Hospice Care" (2.16.840.1.113883.3.600.1.1579)
- valueset "Patient Declined" (2.16.840.1.113883.3.526.3.1582)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)

- valueset "Pregnancy or Other Related Diagnoses" (2.16.840.1.113883.3.600.1.1623)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Referrals Where Weight Assessment May Occur" (2.16.840.1.113883.3.600.1.1527)

3.4.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Pregnancy or Other Related Diagnoses" using "Pregnancy or Other Related Diagnoses (2.16.840.1.113883.3.600.1.1623)"
- "Encounter, Performed: Encounter for palliative care" using "Encounter for palliative care (ICD10CM Code Z51.5)"
- "Encounter, Performed: Encounter to Evaluate BMI" using "Encounter to Evaluate BMI (2.16.840.1.113883.3.600.1.1751)"
- "Intervention, Not Ordered: Follow Up for Above Normal BMI" using "Follow Up for Above Normal BMI (2.16.840.1.113883.3.600.1.1525)"
- "Intervention, Not Ordered: Follow Up for Below Normal BMI" using "Follow Up for Below Normal BMI (2.16.840.1.113883.3.600.1.1528)"
- "Intervention, Not Ordered: Referrals Where Weight Assessment May Occur" using "Referrals Where Weight Assessment May Occur (2.16.840.1.113883.3.600.1.1527)"
- "Intervention, Not Performed: Follow Up for Above Normal BMI" using "Follow Up for Above Normal BMI (2.16.840.1.113883.3.600.1.1525)"
- "Intervention, Not Performed: Follow Up for Below Normal BMI" using "Follow Up for Below Normal BMI (2.16.840.1.113883.3.600.1.1528)"
- "Intervention, Order: Follow Up for Above Normal BMI" using "Follow Up for Above Normal BMI (2.16.840.1.113883.3.600.1.1525)"
- "Intervention, Order: Follow Up for Below Normal BMI" using "Follow Up for Below Normal BMI (2.16.840.1.113883.3.600.1.1528)"
- "Intervention, Order: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
- "Intervention, Order: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Intervention, Order: Referrals Where Weight Assessment May Occur" using "Referrals Where Weight Assessment May Occur (2.16.840.1.113883.3.600.1.1527)"
- "Intervention, Performed: Follow Up for Above Normal BMI" using "Follow Up for Above Normal BMI (2.16.840.1.113883.3.600.1.1525)"

- "Intervention, Performed: Follow Up for Below Normal BMI" using "Follow Up for Below Normal BMI (2.16.840.1.113883.3.600.1.1528)"
- "Intervention, Performed: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
- "Intervention, Performed: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Medication, Not Ordered: Medications for Above Normal BMI" using "Medications for Above Normal BMI (2.16.840.1.113883.3.526.3.1561)"
- "Medication, Not Ordered: Medications for Below Normal BMI" using "Medications for Below Normal BMI (2.16.840.1.113883.3.526.3.1562)"
- "Medication, Order: Medications for Above Normal BMI" using "Medications for Above Normal BMI (2.16.840.1.113883.3.526.3.1561)"
- "Medication, Order: Medications for Below Normal BMI" using "Medications for Below Normal BMI (2.16.840.1.113883.3.526.3.1562)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Not Performed: Body mass index (BMI) [Ratio]" using "Body mass index (BMI) [Ratio] (LOINC Code 39156-5)"
- "Physical Exam, Performed: Body mass index (BMI) [Ratio]" using "Body mass index (BMI) [Ratio] (LOINC Code 39156-5)"

3.5 CMS117v10 Childhood Immunization Status

3.5.1 Detail

Description	Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV), one measles, mumps and rubella (MMR); three or four H influenza type B (Hib); three hepatitis B (Hep B); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday

Rationale	Infants and toddlers are particularly vulnerable to infectious diseases because their immune systems have not built up the necessary defenses to fight infection (Centers for Disease Control and Prevention (CDC, 2019). Most childhood vaccines are between 90 and 99 percent effective in preventing diseases (American Academy of Pediatrics, 2013). Vaccination of each U.S. birth cohort with the current childhood immunization schedule prevents approximately 42,000 deaths and 20 million cases of disease and saves nearly $14 billion in direct costs and $69 billion in societal costs each year (Zhou et al., 2014). Immunizing a child not only protects that child's health but also the health of the community, especially for those who are not immunized or are unable to be immunized due to other health complications (Centers for Disease Control and Prevention, 2018).

Clinical Recommendation Statement	Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States 220 (Centers for Disease Control and Prevention, 2020) Hepatitis B vaccination (minimum age: birth) "Routine series -- 3-dose series at 0, 1–2, 6–18 months (use monovalent HepB vaccine for doses administered before age 6 weeks) -- Infants who did not receive a birth dose should begin the series as soon as feasible (see Table 2). -- Administration of 4 doses is permitted when a combination vaccine containing HepB is used after the birth dose. -- Minimum age for the final (3rd or 4th) dose: 24 weeks -- Minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 8 weeks / dose 1 to dose 3: 16 weeks (when 4 doses are administered, substitute "dose 4" for "dose 3" in these calculations) " Diphtheria, tetanus, and pertussis (DTaP) vaccination (minimum age: 6 weeks [4 years for Kinrix or Quadracel]) "Routine vaccination -- 5-dose series at 2, 4, 6, 15–18 months, 4–6 years - Prospectively: Dose 4 may be administered as early as age 12 months if at least 6 months have elapsed since dose 3. - Retrospectively: A 4th dose that was inadvertently administered as early as 12 months may be counted if at least 4 months have elapsed since dose 3. " Haemophilus influenzae type b vaccination (minimum age: 6 weeks) "Routine vaccination -- ActHIB, Hiberix, or Pentacel: 4-dose series at 2, 4, 6, 12– 15 months -- PedvaxHIB: 3-dose series at 2, 4, 12–15 months" Pneumococcal vaccination (minimum age: 6 weeks [PCV13], 2 years [PPSV23]) "Routine vaccination with PCV13 -- 4-dose series at 2, 4, 6, 12–15 months" Poliovirus vaccination (minimum age: 6 weeks) "Routine vaccination

	-- 4-dose series at ages 2, 4, 6–18 months, 4–6 years; administer the final dose at or after age 4 years and at least 6 months after the previous dose. -- 4 or more doses of IPV can be administered before age 4 years when a combination vaccine containing IPV is used. However, a dose is still recommended at or after age 4 years and at least 6 months after the previous dose" Measles, mumps, and rubella vaccination (minimum age: 12 months for routine vaccination) "Routine vaccination -- 2-dose series at 12–15 months, 4–6 years -- Dose 2 may be administered as early as 4 weeks after dose 1." Varicella vaccination (minimum age: 12 months) "Routine vaccination -- 2-dose series at 12–15 months, 4–6 years -- Dose 2 may be administered as early as 3 months after dose 1 (a dose administered after a 4-week interval may be counted)." Hepatitis A vaccination (minimum age: 12 months for routine vaccination) "Routine vaccination -- 2-dose series (minimum interval: 6 months) beginning at age 12 months" Rotavirus vaccination (minimum age: 6 weeks) "Routine vaccination -- Rotarix: 2-dose series at 2 and 4 months -- RotaTeq: 3-dose series at 2, 4, and 6 months -- If any dose in the series is either RotaTeq or unknown, default to 3-dose series" Influenza vaccination (minimum age: 6 months [IIV], 2 years [LAIV], 18 years [recombinant influenza vaccine, RIV]) "Routine vaccination -- Use any influenza vaccine appropriate for age and health status annually: - 2 doses, separated by at least 4 weeks, for children age 6 months–8 years who have received fewer than 2 influenza

	vaccine doses before July 1, 2019, or whose influenza vaccination history is unknown (administer dose 2 even if the child turns 9 between receipt of dose 1 and dose 2) - 1 dose for children age 6 months–8 years who have received at least 2 influenza vaccine doses before July 1, 2019 - 1 dose for all persons age 9 years and older -- For the 2020–21 season, see the 2020–21 ACIP influenza vaccine recommendations."
Definition	Recommended vaccines: Vaccines and the schedule of vaccines as recommended by the Advisory Committee on Immunization Practices (ACIP) for children two years of age. The measure may differ slightly from the ACIP recommendations because the measure focuses on immunizations that are appropriate by age 2. Also, there may be small differences when there are shortages for a particular vaccine.

Guidance	Numerator criteria includes evidence of receipt of the recommended vaccine or the following: -- DTaP: Adverse reaction to the DTaP or Td vaccine; or encephalopathy due to DTaP or Td vaccination -- Polio (IPV) vaccine: Adverse reaction to the IPV vaccine, streptomycin, polymyxin B, or neomycin -- MMR Vaccination: Immunodeficiency, HIV, lymphoreticular cancer, multiple myeloma, or leukemia; adverse reaction to neomycin; history of measles, mumps, or rubella; or a seropositive result for the antigens -- Hib: Adverse reaction to the Hib vaccine -- Hepatitis B: Seropositive result for the antigen, adverse reaction to the hepatitis B vaccine, adverse reaction to common baker's yeast, or a history of hepatitis B illness -- Chicken pox (varicella zoster): Seropositive result for the antigen; immunodeficiency, HIV, lymphoreticular cancer, multiple myeloma, or leukemia; adverse reaction to neomycin; or a history of varicella zoster -- Pneumococcal: Adverse reaction to the pneumococcal vaccine -- Hepatitis A: Seropositive result for the antigen, adverse reaction to the hepatitis A vaccine, or a history of hepatitis A illness -- Rotavirus: Adverse reaction to the rotavirus vaccine, severe combined immunodeficiency, or a history of intussusception -- Influenza: Adverse reaction to the influenza vaccine; immunodeficiency, HIV, lymphoreticular cancer, multiple myeloma, or leukemia; or adverse reaction to neomycin The measure allows a grace period by measuring compliance with these recommendations between birth and age two.
Initial Population	Children who turn 2 years of age during the measurement period and who have a visit during the measurement period
Denominator	Equals Initial Population

Denominator Exclusions	Exclude patients whose hospice care for any part of the measurement period.
Numerator	Children who have evidence showing they received recommended vaccines, had documented history of the illness, had a seropositive test result, or had an allergic reaction to the vaccine by their second birthday
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.5.2 Data Entry

Description	Percentage of children 2 years of age who had four DTaP; three polio (IPV); one MMR; three H influenza type B (HIB); three hepatitis B (Hep B); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday.

1. Create visit (inpatient or outpatient), child between age 1 and 2. Multiple encounters accepted:

   - Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001),
   - Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016),
   - Preventive care visits (Value sets 2.16.840.1.113883.3.464.1003.101.12.1022,…1024)
   - Inpatient visits (Value Set 2.16.840.1.113883.3.666.5.307)

     See Appendix A on using Value Sets.

2. Exclude patients discharged to hospice care or with documented hospice or comfort measures in IPL (Value Set: 2.16.840.1.113762.1.4.1108.15).

3. Administer all vaccines from Immunization Forecaster unless documented reaction.

   - Reactions are specific to vaccine type and assume age less than 2:
     - DPT: anaphylaxis or encephalopathy
     - Polio: reaction to vaccine, streptomycin, neomycin, polymyxin
     - MMR: disorder of immune system, malignancy of lymphatic or hematopoietic tissue, or neomycin adverse reaction
   - Diagnosis of Measles, Mumps or Rubella, OR IGG Antibody >1.1
     - HIB-anaphylaxis

- Hepatitis B – presence of Anti-Hepatitis B virus surface ab
- Anaphylactic reaction to Hepatitis B vaccine, common baker's yeast
- Diagnosis of Hepatitis B
  - Varicella/zoster – disorder of immune system, HIV, Malignant neoplasm of lymphatic or hematopoietic tissue, neomycin adverse reaction
- Diagnosis of varicella zoster or VZ IGG Aby test >1.10
  - Pneumococcal conjugate – Pneumococcal vaccine adverse reaction
  - Hepatitis A – Anaphylaxis, diagnosis of Hepatitis A, Anti Hepatitis A IgG Agn positive.
  - Rotavirus-anaphylaxis, severe combined immunodeficiency, intussusception.
  - Influenza – influenza virus vaccine adverse reaction, disorder of immune system, malignant neoplasm of lymphatic and hematopoietic tissue, neomycin adverse reaction.

3.5.3 Terminology

- code "Adverse reaction to vaccine product containing Hepatitis A virus antigen (disorder)" ("SNOMEDCT Code (293126009)")
- code "Adverse reaction to vaccine product containing Human poliovirus antigen (disorder)" ("SNOMEDCT Code (293117006)")
- code "Adverse reaction to vaccine product containing Influenza virus antigen (disorder)" ("SNOMEDCT Code (420113004)")
- code "Adverse reaction to vaccine product containing Streptococcus pneumoniae antigen (disorder)" ("SNOMEDCT Code (293116002)")
- code "Anaphylaxis due to Haemophilus influenzae type b vaccine (disorder)" ("SNOMEDCT Code (433621000124101)")
- code "Anaphylaxis due to Hepatitis B vaccine (disorder)" ("SNOMEDCT Code (428321000124101)")
- code "Anaphylaxis due to rotavirus vaccine (disorder)" ("SNOMEDCT Code (428331000124103)")
- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Neomycin adverse reaction (disorder)" ("SNOMEDCT Code (292927007)")

- code "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." ("CPT Code (99211)")
- code "Polymyxin B adverse reaction (disorder)" ("SNOMEDCT Code (292992006)")
- code "rotavirus, live, monovalent vaccine" ("CVX Code (119)")
- code "Streptomycin adverse reaction (disorder)" ("SNOMEDCT Code (292925004)")
- valueset "Anaphylactic Reaction to Common Baker's Yeast" (2.16.840.1.113883.3.464.1003.199.12.1032)
- valueset "Anaphylactic Reaction to DTaP Vaccine" (2.16.840.1.113883.3.464.1003.199.12.1031)
- valueset "Anti Hepatitis A IgG Antigen Test" (2.16.840.1.113883.3.464.1003.198.12.1033)
- valueset "Anti Hepatitis B Virus Surface Ab" (2.16.840.1.113883.3.464.1003.198.12.1073)
- valueset "Disorders of the Immune System" (2.16.840.1.113883.3.464.1003.120.12.1001)
- valueset "DTaP Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1214)
- valueset "DTaP Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1022)
- valueset "Encephalopathy due to Childhood Vaccination" (2.16.840.1.113883.3.464.1003.114.12.1007)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hepatitis A" (2.16.840.1.113883.3.464.1003.110.12.1024)
- valueset "Hepatitis A Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1215)
- valueset "Hepatitis A Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1041)
- valueset "Hepatitis B" (2.16.840.1.113883.3.464.1003.110.12.1025)
- valueset "Hepatitis B Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1216)
- valueset "Hepatitis B Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1042)

- valueset "Hib Vaccine (3 dose schedule)" (2.16.840.1.113883.3.464.1003.110.12.1083)
- valueset "Hib Vaccine (3 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1084)
- valueset "Hib Vaccine (4 dose schedule)" (2.16.840.1.113883.3.464.1003.110.12.1085)
- valueset "Hib Vaccine (4 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1086)
- valueset "HIV" (2.16.840.1.113883.3.464.1003.120.12.1003)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Inactivated Polio Vaccine (IPV)" (2.16.840.1.113883.3.464.1003.196.12.1219)
- valueset "Inactivated Polio Vaccine (IPV) Administered" (2.16.840.1.113883.3.464.1003.110.12.1045)
- valueset "Influenza Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1218)
- valueset "Influenza Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1044)
- valueset "Influenza Virus LAIV Immunization" (2.16.840.1.113883.3.464.1003.110.12.1087)
- valueset "Influenza Virus LAIV Procedure" (2.16.840.1.113883.3.464.1003.110.12.1088)
- valueset "Intussusception" (2.16.840.1.113883.3.464.1003.199.12.1056)
- valueset "Malignant Neoplasm of Lymphatic and Hematopoietic Tissue" (2.16.840.1.113883.3.464.1003.108.12.1009)
- valueset "Measles" (2.16.840.1.113883.3.464.1003.110.12.1053)
- valueset "Measles Antibody Test (IgG Antibody presence)" (2.16.840.1.113883.3.464.1003.198.12.1060)
- valueset "Measles Antibody Test (IgG Antibody Titer)" (2.16.840.1.113883.3.464.1003.198.12.1059)
- valueset "Measles, Mumps and Rubella (MMR) Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1224)
- valueset "Measles, Mumps and Rubella (MMR) Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1031)
- valueset "Mumps" (2.16.840.1.113883.3.464.1003.110.12.1032)

- valueset "Mumps Antibody Test (IgG Antibody presence)" (2.16.840.1.113883.3.464.1003.198.12.1062)
- valueset "Mumps Antibody Test (IgG Antibody Titer)" (2.16.840.1.113883.3.464.1003.198.12.1061)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pneumococcal Conjugate Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1221)
- valueset "Pneumococcal Conjugate Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1046)
- valueset "Positive Finding" (2.16.840.1.113883.3.464.1003.121.12.1016)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Rotavirus Vaccine (2 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1048)
- valueset "Rotavirus Vaccine (3 dose schedule)" (2.16.840.1.113883.3.464.1003.196.12.1223)
- valueset "Rotavirus Vaccine (3 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1047)
- valueset "Rubella" (2.16.840.1.113883.3.464.1003.110.12.1037)
- valueset "Rubella Antibody Test (IgG Antibody presence)" (2.16.840.1.113883.3.464.1003.198.12.1064)
- valueset "Rubella Antibody Test (IgG Antibody Titer)" (2.16.840.1.113883.3.464.1003.198.12.1063)
- valueset "Severe Combined Immunodeficiency" (2.16.840.1.113883.3.464.1003.120.12.1007)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Varicella Zoster" (2.16.840.1.113883.3.464.1003.110.12.1039)
- valueset "Varicella Zoster Antibody Test (IgG Antibody Presence)" (2.16.840.1.113883.3.464.1003.198.12.1067)

- valueset "Varicella Zoster Antibody Test (IgG Antibody Titer)" (2.16.840.1.113883.3.464.1003.198.12.1066)
    - valueset "Varicella Zoster Vaccine (VZV)" (2.16.840.1.113883.3.464.1003.196.12.1170)
- valueset "Varicella Zoster Vaccine (VZV) Administered" (2.16.840.1.113883.3.464.1003.110.12.1040)

3.5.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Adverse reaction to vaccine product containing Hepatitis A virus antigen (disorder)" using "Adverse reaction to vaccine product containing Hepatitis A virus antigen (disorder) (SNOMEDCT Code 293126009)"
- "Diagnosis: Adverse reaction to vaccine product containing Human poliovirus antigen (disorder)" using "Adverse reaction to vaccine product containing Human poliovirus antigen (disorder) (SNOMEDCT Code 293117006)"
- "Diagnosis: Adverse reaction to vaccine product containing Influenza virus antigen (disorder)" using "Adverse reaction to vaccine product containing Influenza virus antigen (disorder) (SNOMEDCT Code 420113004)"
- "Diagnosis: Adverse reaction to vaccine product containing Streptococcus pneumoniae antigen (disorder)" using "Adverse reaction to vaccine product containing Streptococcus pneumoniae antigen (disorder) (SNOMEDCT Code 293116002)"
- "Diagnosis: Anaphylactic Reaction to Common Baker's Yeast" using "Anaphylactic Reaction to Common Baker's Yeast (2.16.840.1.113883.3.464.1003.199.12.1032)"
- "Diagnosis: Anaphylactic Reaction to DTaP Vaccine" using "Anaphylactic Reaction to DTaP Vaccine (2.16.840.1.113883.3.464.1003.199.12.1031)"
- "Diagnosis: Anaphylaxis due to Haemophilus influenzae type b vaccine (disorder)" using "Anaphylaxis due to Haemophilus influenzae type b vaccine (disorder) (SNOMEDCT Code 433621000124101)"
- "Diagnosis: Anaphylaxis due to Hepatitis B vaccine (disorder)" using "Anaphylaxis due to Hepatitis B vaccine (disorder) (SNOMEDCT Code 428321000124101)"
- "Diagnosis: Anaphylaxis due to rotavirus vaccine (disorder)" using "Anaphylaxis due to rotavirus vaccine (disorder) (SNOMEDCT Code 428331000124103)"
- "Diagnosis: Disorders of the Immune System" using "Disorders of the Immune System (2.16.840.1.113883.3.464.1003.120.12.1001)"
- "Diagnosis: Encephalopathy due to Childhood Vaccination" using "Encephalopathy due to Childhood Vaccination (2.16.840.1.113883.3.464.1003.114.12.1007)"

- "Diagnosis: Hepatitis A" using "Hepatitis A (2.16.840.1.113883.3.464.1003.110.12.1024)"
- "Diagnosis: Hepatitis B" using "Hepatitis B (2.16.840.1.113883.3.464.1003.110.12.1025)"
- "Diagnosis: HIV" using "HIV (2.16.840.1.113883.3.464.1003.120.12.1003)"
- "Diagnosis: Intussusception" using "Intussusception (2.16.840.1.113883.3.464.1003.199.12.1056)"
- "Diagnosis: Malignant Neoplasm of Lymphatic and Hematopoietic Tissue" using "Malignant Neoplasm of Lymphatic and Hematopoietic Tissue (2.16.840.1.113883.3.464.1003.108.12.1009)"
- "Diagnosis: Measles" using "Measles (2.16.840.1.113883.3.464.1003.110.12.1053)"
- "Diagnosis: Mumps" using "Mumps (2.16.840.1.113883.3.464.1003.110.12.1032)"
- "Diagnosis: Neomycin adverse reaction (disorder)" using "Neomycin adverse reaction (disorder) (SNOMEDCT Code 292927007)"
- "Diagnosis: Polymyxin B adverse reaction (disorder)" using "Polymyxin B adverse reaction (disorder) (SNOMEDCT Code 292992006)"
- "Diagnosis: Rubella" using "Rubella (2.16.840.1.113883.3.464.1003.110.12.1037)"
- "Diagnosis: Severe Combined Immunodeficiency" using "Severe Combined Immunodeficiency (2.16.840.1.113883.3.464.1003.120.12.1007)"
- "Diagnosis: Streptomycin adverse reaction (disorder)" using "Streptomycin adverse reaction (disorder) (SNOMEDCT Code 292925004)"
- "Diagnosis: Varicella Zoster" using "Varicella Zoster (2.16.840.1.113883.3.464.1003.110.12.1039)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." using "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal. (CPT Code 99211)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"

- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Immunization, Administered: DTaP Vaccine" using "DTaP Vaccine (2.16.840.1.113883.3.464.1003.196.12.1214)"
- "Immunization, Administered: Hepatitis A Vaccine" using "Hepatitis A Vaccine (2.16.840.1.113883.3.464.1003.196.12.1215)"
- "Immunization, Administered: Hepatitis B Vaccine" using "Hepatitis B Vaccine (2.16.840.1.113883.3.464.1003.196.12.1216)"
- "Immunization, Administered: Hib Vaccine (3 dose schedule)" using "Hib Vaccine (3 dose schedule) (2.16.840.1.113883.3.464.1003.110.12.1083)"
- "Immunization, Administered: Hib Vaccine (4 dose schedule)" using "Hib Vaccine (4 dose schedule) (2.16.840.1.113883.3.464.1003.110.12.1085)"
- "Immunization, Administered: Inactivated Polio Vaccine (IPV)" using "Inactivated Polio Vaccine (IPV) (2.16.840.1.113883.3.464.1003.196.12.1219)"
- "Immunization, Administered: Influenza Vaccine" using "Influenza Vaccine (2.16.840.1.113883.3.464.1003.196.12.1218)"
- "Immunization, Administered: Influenza Virus LAIV Immunization" using "Influenza Virus LAIV Immunization (2.16.840.1.113883.3.464.1003.110.12.1087)"
- "Immunization, Administered: Measles, Mumps and Rubella (MMR) Vaccine" using "Measles, Mumps and Rubella (MMR) Vaccine (2.16.840.1.113883.3.464.1003.196.12.1224)"
- "Immunization, Administered: Pneumococcal Conjugate Vaccine" using "Pneumococcal Conjugate Vaccine (2.16.840.1.113883.3.464.1003.196.12.1221)"
- "Immunization, Administered: Rotavirus Vaccine (3 dose schedule)" using "Rotavirus Vaccine (3 dose schedule) (2.16.840.1.113883.3.464.1003.196.12.1223)"
- "Immunization, Administered: rotavirus, live, monovalent vaccine" using "rotavirus, live, monovalent vaccine (CVX Code 119)"

- "Immunization, Administered: Varicella Zoster Vaccine (VZV)" using "Varicella Zoster Vaccine (VZV) (2.16.840.1.113883.3.464.1003.196.12.1170)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Laboratory Test, Performed: Anti Hepatitis A IgG Antigen Test" using "Anti Hepatitis A IgG Antigen Test (2.16.840.1.113883.3.464.1003.198.12.1033)"
- "Laboratory Test, Performed: Anti Hepatitis B Virus Surface Ab" using "Anti Hepatitis B Virus Surface Ab (2.16.840.1.113883.3.464.1003.198.12.1073)"
- "Laboratory Test, Performed: Measles Antibody Test (IgG Antibody presence)" using "Measles Antibody Test (IgG Antibody presence) (2.16.840.1.113883.3.464.1003.198.12.1060)"
- "Laboratory Test, Performed: Measles Antibody Test (IgG Antibody Titer)" using "Measles Antibody Test (IgG Antibody Titer) (2.16.840.1.113883.3.464.1003.198.12.1059)"
- "Laboratory Test, Performed: Mumps Antibody Test (IgG Antibody presence)" using "Mumps Antibody Test (IgG Antibody presence) (2.16.840.1.113883.3.464.1003.198.12.1062)"
- "Laboratory Test, Performed: Mumps Antibody Test (IgG Antibody Titer)" using "Mumps Antibody Test (IgG Antibody Titer) (2.16.840.1.113883.3.464.1003.198.12.1061)"
- "Laboratory Test, Performed: Rubella Antibody Test (IgG Antibody presence)" using "Rubella Antibody Test (IgG Antibody presence) (2.16.840.1.113883.3.464.1003.198.12.1064)"
- "Laboratory Test, Performed: Rubella Antibody Test (IgG Antibody Titer)" using "Rubella Antibody Test (IgG Antibody Titer) (2.16.840.1.113883.3.464.1003.198.12.1063)"
- "Laboratory Test, Performed: Varicella Zoster Antibody Test (IgG Antibody Presence)" using "Varicella Zoster Antibody Test (IgG Antibody Presence) (2.16.840.1.113883.3.464.1003.198.12.1067)"
- "Laboratory Test, Performed: Varicella Zoster Antibody Test (IgG Antibody Titer)" using "Varicella Zoster Antibody Test (IgG Antibody Titer) (2.16.840.1.113883.3.464.1003.198.12.1066)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"

- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: DTaP Vaccine Administered" using "DTaP Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1022)"
- "Procedure, Performed: Hepatitis A Vaccine Administered" using "Hepatitis A Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1041)"
- "Procedure, Performed: Hepatitis B Vaccine Administered" using "Hepatitis B Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1042)"
- "Procedure, Performed: Hib Vaccine (3 dose schedule) Administered" using "Hib Vaccine (3 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1084)"
- "Procedure, Performed: Hib Vaccine (4 dose schedule) Administered" using "Hib Vaccine (4 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1086)"
- "Procedure, Performed: Inactivated Polio Vaccine (IPV) Administered" using "Inactivated Polio Vaccine (IPV) Administered (2.16.840.1.113883.3.464.1003.110.12.1045)"
- "Procedure, Performed: Influenza Vaccine Administered" using "Influenza Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1044)"
- "Procedure, Performed: Influenza Virus LAIV Procedure" using "Influenza Virus LAIV Procedure (2.16.840.1.113883.3.464.1003.110.12.1088)"
- "Procedure, Performed: Measles, Mumps and Rubella (MMR) Vaccine Administered" using "Measles, Mumps and Rubella (MMR) Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1031)"
- "Procedure, Performed: Pneumococcal Conjugate Vaccine Administered" using "Pneumococcal Conjugate Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1046)"
- "Procedure, Performed: Rotavirus Vaccine (2 dose schedule) Administered" using "Rotavirus Vaccine (2 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1048)"
- "Procedure, Performed: Rotavirus Vaccine (3 dose schedule) Administered" using "Rotavirus Vaccine (3 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1047)"
- "Procedure, Performed: Varicella Zoster Vaccine (VZV) Administered" using "Varicella Zoster Vaccine (VZV) Administered (2.16.840.1.113883.3.464.1003.110.12.1040)"

3.6 CMS122v10 Diabetes: Hemoglobin A1c Poor Control (> 9%)

3.6.1 Detail

Description	Percentage of patients 18-75 years of age with diabetes who had hemoglobin A1c > 9.0% during the measurement period.
Rationale	Diabetes is the seventh leading cause of death in the United States. In 2017, diabetes affected approximately 34 million Americans (10.5 percent of the U.S. population) and killed approximately 84,000 people (Centers for Disease Control and Prevention [CDC], 2020a). Diabetes is a long-lasting disease marked by high blood glucose levels, resulting from the body's inability to produce or use insulin properly (CDC, 2020a). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney damage, and amputation of feet or legs (CDC, 2018). In 2017, diabetes cost the U.S. an estimated $327 billion: $237 billion in direct medical costs and $90 billion in reduced productivity. This is a 34 percent increase from the estimated $245 billion spent on diabetes in 2012 (American Diabetes Association [ADA], 2018). Controlling A1c blood levels helps reduce the risk of microvascular complications (eye, kidney and nerve diseases) (ADA, 2020).
Clinical Recommendation Statement	American Diabetes Association (2020): – An A1C goal for many nonpregnant adults of <7% (53 mmol/mol) is appropriate. (Level of evidence: A) – On the basis of provider judgement and patient preference, achievement of lower A1C goals (such as <6.5%) may be acceptable if this can be achieved safely without significant hypoglycemia or other adverse effects of treatment. (Level of evidence: C) – Less stringent A1C goals (such as <8% [64 mmol/mol]) may be appropriate for patients with a history of severe hypoglycemia, limited life expectancy, advanced microvascular or macrovascular complications, extensive comorbid conditions, or long-standing diabetes in whom the goal is difficult to achieve despite diabetes self-management education, appropriate glucose monitoring, and effective doses of multiple glucose-lowering agents including insulin. (Level of evidence: B)
Guidance	If the HbA1c test result is in the medical record, the test can be used to determine numerator compliance. Only patients with a diagnosis of Type 1 or Type 2 diabetes should be included in the denominator of this measure; patients with a diagnosis of secondary diabetes due to another condition should not be included. This eCQM is a patient-based measure.

Initial Population	Patients 18-75 years of age with diabetes with a visit during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period. Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period. Exclude patients 66 and older with an indication of frailty for any part of the measurement period who meet any of the following criteria: – Advanced illness with two outpatient encounters during the measurement period or the year prior – OR advanced illness with one inpatient encounter during the measurement period or the year prior – OR taking dementia medications during the measurement period or the year prior Exclude patients receiving palliative care during the measurement period.
Numerator	Patients whose most recent HbA1c level (performed during the measurement period) is >9.0% or is missing, or was not performed during the measurement period..
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.6.2 Data Entry

Description	Percentage of patients 18-75 years of age with diabetes who had hemoglobin A1c > 9% during the measurement period.

Create visit, inpatient or outpatient, patient age 18-75 (Multiple visits accepted including:

- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023 and ….1025).
- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Annual wellness visit (Value Set 2.16.840.1.113883.3.526.3.1240).

- Nursing facility visit: (2.16.840.1.113883.3.464.1003.101.12.1012)
- Care services in long-term residential facility: 2.16.840.1.113883.3.464.1003.101.12.1014

See Appendix A on using Value Sets.

- Diagnosis diabetes on IPL (Value Set: 2.16.840.1.113883.3.464.1003.103.12.1001).
- Exclude hospital discharge to hospice or comfort care entered by coding. (Value Set: 2.16.840.1.113762.1.4.1108.15).
- Order and result HbA1c test (POC in Outpatient), included in numerator if >9.

3.6.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- valueset "Acute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1083)
- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1003.110.12.1082)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Dementia Medications" (2.16.840.1.113883.3.464.1003.196.12.1510)
- valueset "Diabetes" (2.16.840.1.113883.3.464.1003.103.12.1001)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Frailty Device" (2.16.840.1.113883.3.464.1003.118.12.1300)
- valueset "Frailty Diagnosis" (2.16.840.1.113883.3.464.1003.113.12.1074)
- valueset "Frailty Encounter" (2.16.840.1.113883.3.464.1003.101.12.1088)
- valueset "Frailty Symptom" (2.16.840.1.113883.3.464.1003.113.12.1075)
- valueset "HbA1c Laboratory Test" (2.16.840.1.113883.3.464.1003.198.12.1013)

- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Nonacute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1084)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)
- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.6.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Diagnosis: Diabetes" using "Diabetes (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083)"

- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1003.101.12.1088)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"

- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Laboratory Test, Performed: HbA1c Laboratory Test" using "HbA1c Laboratory Test (2.16.840.1.113883.3.464.1003.198.12.1013)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1003.196.12.1510)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"

3.7 CMS124v9 Cervical Cancer Screening

3.7.1 Detail

Description	Percentage of women 21-64 years of age who were screened for cervical cancer using either of the following criteria: • Women age 21-64 who had cervical cytology performed within the last 3 years • Women age 30-64 who had cervical human papillomavirus (HPV) testing performed within the last 5 years
Rationale	All women are at risk for cervical cancer. In 2020, an estimated 13,800 women were diagnosed with cervical cancer in the U.S., resulting in an estimated 4,290 deaths (National Cancer Institute, 2020). Screening can identify precancerous lesions and can detect invasive cancer early, when treatment is more likely to be successful (American Cancer Society, 2020).

Clinical Recommendation Statement	US Preventive Services Task Force (USPSTF) (2018) "The USPSTF recommends screening for cervical cancer every 3 years with cervical cytology alone in women aged 21 to 29 years. For women aged 30 to 65 years, the USPSTF recommends screening every 3 years with cervical cytology alone, every 5 years with high-risk human papillomavirus (hrHPV) testing alone, or every 5 years with hrHPV testing in combination with cytology (cotesting) (A recommendation)" "The USPSTF recommends against screening for cervical cancer in women older than 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer. (D recommendation)" "The USPSTF recommends against screening for cervical cancer in women younger than 21 years. (D recommendation)" "The USPSTF recommends against screening for cervical cancer in women who have had a hysterectomy with removal of the cervix and do not have a history of a high-grade precancerous lesion (i.e., cervical intraepithelial neoplasia [CIN] grade 2 or 3) or cervical cancer. (D recommendation)"
Guidance	To ensure the measure is only looking for a cervical cytology test only after a woman turns 21 years of age, the youngest age in the initial population is 23. Patient self-report for procedures as well as diagnostic studies should be recorded in 'Procedure, Performed' template or 'Diagnostic Study, Performed' template in QRDA-1. Evidence of hrHPV testing within the last 5 years also captures patients who had cotesting; therefore, additional methods to identify cotesting are not necessary. This eCQM is a patient-based measure.
Initial Population	Women 23-64 years of age with a visit during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Women who had a hysterectomy with no residual cervix or a congenital absence of cervix. Exclude patients who are in hospice care for any part of the measurement period. Exclude patients receiving palliative care during the measurement period.
Numerator	Women with one or more screenings for cervical cancer. Appropriate screenings are defined by any one of the following criteria: • Cervical cytology performed during the measurement period or the two years prior to the measurement period for women who are at least 21 years old at the time of the test • Cervical human papillomavirus (HPV) testing performed during the measurement period or the four years prior to the measurement period for women who are 30 years or older at the time of the test
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.

Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.7.2 Data Entry

Description	Percentage of women 21-64 years of age who were screened for cervical cancer using either of the following criteria: Women age 21-64 who had cervical cytology performed every 3 years. Women age 30-64 who had cervical cytology/HPV co-testing performed every 5 years.

1. Visit, female, age 23-64 (at start of measurement year), (measure looks back to capture tests on 21-year old). Multiple visits accepted:
   - Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
   - Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, …1025).
   - Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
   - Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
   - Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

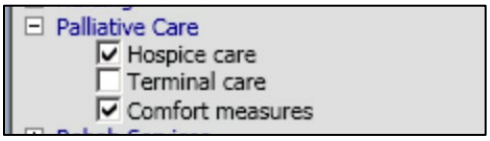


Figure 3-14: Palliative Care list

2. Excludes patients with IPL entry of congenital absence of cervix (SNOMED-CT Code 37687000) or hysterectomy with no residual cervix (Value Set: 2.16.840.1.113883.3.464.1003.198.12.1014).

See Appendix A on using Value Sets.

Include in numerator Pap Smear or Pap Smear with HPV test within 3 years of end of measurement period.

OR:

Include in numerator patients over age 30 with Pap test within 5 years of end of measurement period, AND Pap and HPV test accessioned and resulted.

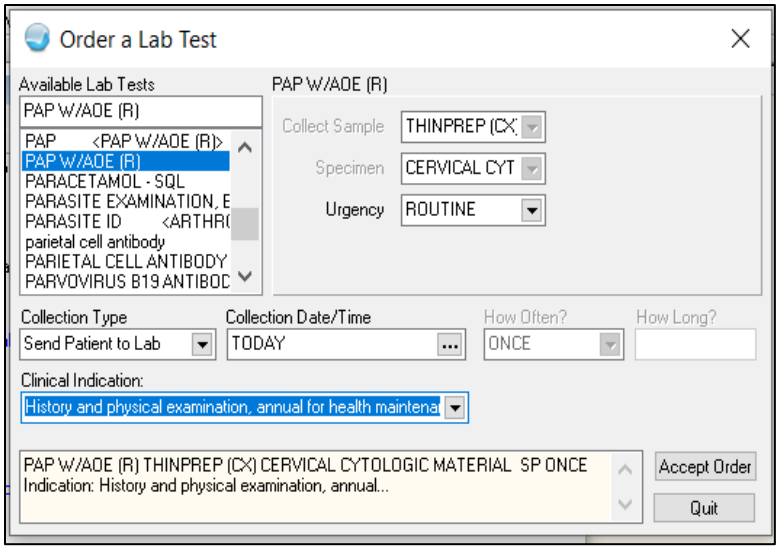


Figure 3-15: Order a Lab Test dialog

3.7.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- valueset "Congenital or Acquired Absence of Cervix" (2.16.840.1.113883.3.464.1003.111.12.1016)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Female" (2.16.840.1.113883.3.560.100.2)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "HPV Test" (2.16.840.1.113883.3.464.1003.110.12.1059)
- valueset "Hysterectomy with No Residual Cervix" (2.16.840.1.113883.3.464.1003.198.12.1014)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)

- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)
- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Pap Test" (2.16.840.1.113883.3.464.1003.108.12.1017)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.7.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Diagnosis: Congenital or Acquired Absence of Cervix" using "Congenital or Acquired Absence of Cervix (2.16.840.1.113883.3.464.1003.111.12.1016)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"

- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Laboratory Test, Performed: HPV Test" using "HPV Test (2.16.840.1.113883.3.464.1003.110.12.1059)"
- "Laboratory Test, Performed: Pap Test" using "Pap Test (2.16.840.1.113883.3.464.1003.108.12.1017)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: Female" using "Female (2.16.840.1.113883.3.560.100.2)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Hysterectomy with No Residual Cervix" using "Hysterectomy with No Residual Cervix (2.16.840.1.113883.3.464.1003.198.12.1014)"

3.8 CMS125v10 Breast Cancer Screening

3.8.1 Detail

Description:	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer in the 27 months prior to the end of the Measurement Period

Rationale	Breast cancer is one of the most common types of cancers, accounting for 15 percent of all new cancer diagnoses in the U.S. (Noone et al, 2018). In 2015, over 3 million women were estimated to be living with breast cancer in the U.S. and it is estimated that 12 percent of women will be diagnosed with breast cancer at some point during their lifetime (Noone et al, 2018). While there are other factors that affect a woman's risk of developing breast cancer, advancing age is a primary risk factor. Breast cancer is most frequently diagnosed among women ages 55-64; the median age at diagnosis is 62 years (Noone et al, 2018). The chance of a woman being diagnosed with breast cancer in a given year increases with age. By age 40, the chances are 1 in 68; by age 50 it becomes 1 in 43; by age 60, it is 1 in 29 (American Cancer Society, 2017).
Clinical Recommendation Statement	The U.S. Preventive Services Task Force (USPSTF) recommends biennial screening mammography for women aged 50-74 years (B recommendation). (USPSTF, 2016). The decision to start screening mammography in women prior to age 50 years should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years (C recommendation). (USPSTF, 2016). The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening mammography in women aged 75 years or older (I statement). (USPSTF, 2016). The USPSTF concludes that the current evidence is insufficient to assess the benefits and harms of digital breast tomosynthesis (DBT) as a primary screening method for breast cancer (I Statement). (USPSTF, 2016). The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of adjunctive screening for breast cancer using breast ultrasonography, magnetic resonance imaging, DBT, or other methods in women identified to have dense breasts on an otherwise negative screening mammogram (I statement). (USPSTF, 2016).
Guidance	Patient self-report for procedures as well as diagnostic studies should be recorded in 'Procedure, Performed' template or 'Diagnostic Study, Performed' template in QRDA-1. This measure evaluates primary screening. Do not count biopsies, breast ultrasounds, or MRIs because they are not appropriate methods for primary breast cancer screening. This eCQM is a patient-based measure.
Initial Population	Women 51-74 years of age with a visit during the measurement period
Denominator	Equals Initial Population

Denominator Exclusions	Women who had a bilateral mastectomy or who have a history of a bilateral mastectomy or for whom there is evidence of a right and a left unilateral mastectomy. Exclude patients who are in hospice care for any part of the measurement period. Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period. Exclude patients 66 and older with an indication of frailty for any part of the measurement period who meet any of the following criteria: – Advanced illness with two outpatient encounters during the measurement period or the year prior – OR advanced illness with one inpatient encounter during the measurement period or the year prior – OR taking dementia medications during the measurement period or the year prior Exclude patients receiving palliative care during the measurement period.
Numerator	Women with one or more mammograms during the 27 months prior to the end of the measurement period.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.8.2 Data Entry

Description	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer.

Visit during measurement period, female, age 50-74, multiple encounter codes accepted:

- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, …1025).
- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Annual wellness visit (Value Set 2.16.840.1.113883.3.526.3.1240).
- 2.16.840.1.113883.3.464.1003.101.12.1014-Services in long term residential facility.
- Nursing facility visit: 2.16.840.1.113883.3.464.1003.101.12.1012

See Appendix A on using Value Sets.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

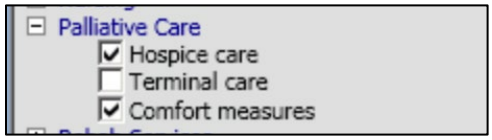


Figure 3-16: Palliative Care list

Exclude patients with diagnosis or history of bilateral mastectomy:

- (Value Set: 2.16.840.1.113883.3.464.1003.198.12.1068).
- (Value Set: 2.16.840.1.113883.3.464.1003.198.12.1005).
  - Two diagnoses of unilateral mastectomy (Value Set: 2.16.840.1.113883.3.464.1003.198.12.1068).
  - Either of the following:
  - Right mastectomy
  - (Value Set:2.16.840.1.113883.3.464.1003.198.12.1070), OR
  - Left mastectomy (Value Set: 2.16.840.1.113883.3.464.1003.198.12.1069)) Plus a second unspecified laterality mastectomy (Value Set: 2.16.840.1.113883.3.464.1003.198.12.1071).

Numerator = Mammogram date within 27 months of end of measurement period.

3.8.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- code "Left (qualifier value)" ("SNOMEDCT Code (7771000)")
- code "Right (qualifier value)" ("SNOMEDCT Code (24028007)")
- valueset "Acute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1083)
- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1003.110.12.1082)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Bilateral Mastectomy" (2.16.840.1.113883.3.464.1003.198.12.1005)

- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Dementia Medications" (2.16.840.1.113883.3.464.1003.196.12.1510)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Female" (2.16.840.1.113883.3.560.100.2)
- valueset "Frailty Device" (2.16.840.1.113883.3.464.1003.118.12.1300)
- valueset "Frailty Diagnosis" (2.16.840.1.113883.3.464.1003.113.12.1074)
- valueset "Frailty Encounter" (2.16.840.1.113883.3.464.1003.101.12.1088)
- valueset "Frailty Symptom" (2.16.840.1.113883.3.464.1003.113.12.1075)
- valueset "History of bilateral mastectomy" (2.16.840.1.113883.3.464.1003.198.12.1068)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Mammography" (2.16.840.1.113883.3.464.1003.108.12.1018)
- valueset "Nonacute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1084)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)
- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)

- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Status Post Left Mastectomy" (2.16.840.1.113883.3.464.1003.198.12.1069)
- valueset "Status Post Right Mastectomy" (2.16.840.1.113883.3.464.1003.198.12.1070)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Unilateral Mastectomy Left" (2.16.840.1.113883.3.464.1003.198.12.1133)
- valueset "Unilateral Mastectomy Right" (2.16.840.1.113883.3.464.1003.198.12.1134)
- valueset "Unilateral Mastectomy, Unspecified Laterality" (2.16.840.1.113883.3.464.1003.198.12.1071)

3.8.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074)"
- "Diagnosis: History of bilateral mastectomy" using "History of bilateral mastectomy (2.16.840.1.113883.3.464.1003.198.12.1068)"
- "Diagnosis: Status Post Left Mastectomy" using "Status Post Left Mastectomy (2.16.840.1.113883.3.464.1003.198.12.1069)"
- "Diagnosis: Status Post Right Mastectomy" using "Status Post Right Mastectomy (2.16.840.1.113883.3.464.1003.198.12.1070)"
- "Diagnosis: Unilateral Mastectomy, Unspecified Laterality" using "Unilateral Mastectomy, Unspecified Laterality (2.16.840.1.113883.3.464.1003.198.12.1071)"
- "Diagnostic Study, Performed: Mammography" using "Mammography (2.16.840.1.113883.3.464.1003.108.12.1018)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083)"

- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1003.101.12.1088)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"

- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1003.196.12.1510)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: Female" using "Female (2.16.840.1.113883.3.560.100.2)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Bilateral Mastectomy" using "Bilateral Mastectomy (2.16.840.1.113883.3.464.1003.198.12.1005)"
- "Procedure, Performed: Unilateral Mastectomy Left" using "Unilateral Mastectomy Left (2.16.840.1.113883.3.464.1003.198.12.1133)"
- "Procedure, Performed: Unilateral Mastectomy Right" using "Unilateral Mastectomy Right (2.16.840.1.113883.3.464.1003.198.12.1134)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"

3.9 CMS127v10 Pneumococcal Vaccination Status for Older Adults

3.9.1 Detail

Description:	Percentage of patients 66 years of age and older who have ever received a pneumococcal vaccine.

Rationale	Pneumococcal disease is a common cause of illness and death in older adults and in persons with certain underlying conditions. The major clinical syndromes of pneumococcal disease include pneumonia, bacteremia and meningitis, with pneumonia being the most common (CDC 2015a). Pneumonia symptoms generally include fever, chills, pleuritic chest pain, cough with sputum, dyspnea, tachypnea, hypoxia tachycardia, malaise and weakness. There are an estimated 400,000 cases of pneumonia in the U.S. each year and a 5%–7% mortality rate, although it may be higher among older adults and adults in nursing homes (CDC 2015b; Janssens and Krause 2004). Pneumococcal infections result in significant health care costs each year. Geriatric patients with pneumonia require hospitalization in nearly 90 percent of cases, and their average length of stay is twice that of younger adults (Janssens and Krause 2004). Pneumonia in the older adult population is associated with high acute-care costs and an overall impact on total direct medical costs and mortality during and after an acute episode (Thomas et al. 2012). Total medical costs for Medicare beneficiaries during and one year following a hospitalization for pneumonia were found to be $15,682 higher than matched beneficiaries without pneumonia (Thomas et al. 2012). It was estimated that in 2010, the total annual excess cost of hospital-treated pneumonia in the fee-for-service Medicare population was approximately $7 billion (Thomas et al. 2012). Pneumococcal vaccines have been shown to be highly effective in preventing invasive pneumococcal disease. Studies show that at least one dose of pneumococcal polysaccharide vaccine protects between 50-85 in 100 healthy adults against invasive pneumococcal disease (CDC 2019). When comparing costs, outcomes and quality adjusted life years, immunization with recommended pneumococcal vaccines was found to be more economically efficient than no vaccination, with an incremental cost-effectiveness ratio of $25,841 per quality-adjusted life year gained (Chen et al. 2014).
Clinical Recommendation Statement	The Advisory Committee on Immunization Practices (ACIP) recommends a routine single dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23) for adults age 65 years and older. The 13-valent pneumococcal conjugate vaccine (PCV13) is no longer routinely recommended for all adults age 65 years and older. Instead, shared clinical decision-making for PCV13 use is recommended for persons age 65 years and older who do not have an immunocompromising condition, CSF leak, or cochlear implant and who have not previously received PCV13. When patients and vaccine providers engage in shared clinical decision-making for PCV13 use to determine whether PCV13 is right for the specific individual, considerations may include the individual patient's risk for exposure to PCV13 serotypes and the risk for pneumococcal disease for that person as a result of underlying medical conditions. If a decision to administer PCV13 is made, it should be administered at least 12 months before PPSV23 (Matanock et al. 2019).
Guidance	Patient self-report for procedures as well as immunizations should be recorded in 'Procedure, Performed' template or 'Immunization, Administered' template in QRDA-1.

Initial Population	Patients 66 years of age and older with a visit during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period.
Numerator	Patients who received a pneumococcal vaccination on are after their 60th birthday and before the end of the measurement period; or ever had an adverse reaction to the vaccine before the end of the measurement period
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.9.2 Data Entry

Description	Percentage of patients 66 years of age and older who have ever received a pneumococcal vaccine.

Visit or Admission, age 65 or older, multiple encounter codes accepted:

- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, ….1025).
- Nursing facility visit (Value Set 2.16.840.1.113883.3.464.1003.101.11.1065).
- Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Annual wellness visit (Value Set 2.16.840.1.113883.3.526.3.1240).
- Long-term residential facility visit. (Value Set 2.16.840.1.113883.3.464.1003.101.12.1014).

See Appendix A on using Value Sets

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

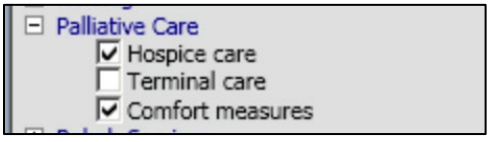


Figure 3-17: Palliative Care list

Numerator = Administer pneumococcal vaccine during visit or hospitalization if no history of receipt at any time in past (included if received in past or present encounter).

3.9.3 Terminology

- code "Adverse reaction to vaccine product containing Streptococcus pneumoniae antigen (disorder)" ("SNOMEDCT Code (293116002)")
- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." ("CPT Code (99211)")
- code "Pneumococcal polysaccharide vaccine, 23-valent (PPSV23), adult or immunosuppressed patient dosage, when administered to individuals 2 years or older, for subcutaneous or intramuscular use" ("CPT Code (90732)")
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Discharge Services - Nursing Facility" (2.16.840.1.113883.3.464.1003.101.11.1065)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pneumococcal Polysaccharide 23 Vaccine" (2.16.840.1.113883.3.464.1003.110.12.1089)

- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.9.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Adverse reaction to vaccine product containing Streptococcus pneumoniae antigen (disorder)" using "Adverse reaction to vaccine product containing Streptococcus pneumoniae antigen (disorder) (SNOMEDCT Code 293116002)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Discharge Services - Nursing Facility" using "Discharge Services - Nursing Facility (2.16.840.1.113883.3.464.1003.101.11.1065)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." using "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal. (CPT Code 99211)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"

- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Immunization, Administered: Pneumococcal Polysaccharide 23 Vaccine" using "Pneumococcal Polysaccharide 23 Vaccine (2.16.840.1.113883.3.464.1003.110.12.1089)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Pneumococcal polysaccharide vaccine, 23-valent (PPSV23), adult or immunosuppressed patient dosage, when administered to individuals 2 years or older, for subcutaneous or intramuscular use" using "Pneumococcal polysaccharide vaccine, 23-valent (PPSV23), adult or immunosuppressed patient dosage, when administered to individuals 2 years or older, for subcutaneous or intramuscular use (CPT Code 90732)"

3.10 CMS130v10 Colorectal Cancer Screening

3.10.1 Detail

Description:	Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer

Rationale	Colorectal cancer represents eight percent of all new cancer cases in the United States. In 2020, there were an estimated 147,950 new cases of colorectal cancer and an estimated 53,200 deaths attributed to it. According to the National Cancer Institute, about 4.2 percent of men and women will be diagnosed with colorectal cancer at some point during their lifetimes. For most adults, older age is the most important risk factor for colorectal cancer, although being male and black are also associated with higher incidence and mortality. Colorectal cancer is most frequently diagnosed among people 65 to 74 years old (National Cancer Institute, 2020). Screening can be effective for finding precancerous lesions (polyps) that could later become malignant, and for detecting early cancers that can be more easily and effectively treated. Precancerous polyps usually take about 10 to 15 years to develop into colorectal cancer, and most can be found and removed before turning into cancer. The five-year relative survival rate for people whose colorectal cancer is found in the early stage before it has spread is about 90 percent (American Cancer Society, 2020).
Clinical Recommendation Statement	The U.S. Preventive Services Task Force (2016) recommends screening for colorectal cancer starting at age 50 years and continuing until age 75 years. This is a Grade A recommendation (U.S. Preventive Services Task Force, 2016). Appropriate screenings are defined by any one of the following: -Colonoscopy (every 10 years) -Flexible sigmoidoscopy (every 5 years) -Fecal occult blood test (annually) -FIT-DNA (every 3 years) -Computed tomographic colonography (every 5 years)
Guidance	Patient self-report for procedures as well as diagnostic studies should be recorded in "Procedure, Performed" template or "Diagnostic Study, Performed" template in QRDA-1. Do not count digital rectal exams (DRE), fecal occult blood tests (FOBTs) performed in an office setting or performed on a sample collected via DRE. This eCQM is a patient-based measure.
Initial Population	Patients 50-75 years of age with a visit during the measurement period
Denominator	Equals Initial Population

Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period. Exclude patients with a diagnosis or past history of total colectomy or colorectal cancer. Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period. Exclude patients 66 and older with an indication of frailty for any part of the measurement period who meet any of the following criteria: – Advanced illness with two outpatient encounters during the measurement period or the year prior – OR advanced illness with one inpatient encounter during the measurement period or the year prior – OR taking dementia medications during the measurement period or the year prior Exclude patients receiving palliative care during the measurement period.
Numerator	Patients with one or more screenings for colorectal cancer. Appropriate screenings are defined by any one of the following criteria: – Fecal occult blood test (FOBT) during the measurement period – Flexible sigmoidoscopy during the measurement period or the four years prior to the measurement period – Colonoscopy during the measurement period or the nine years prior to the measurement period – FIT-DNA during the measurement period or the two years prior to the measurement period – CT Colonography during the measurement period or the four years prior to the measurement period
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.10.2 Data Entry

Description	Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer.

Visit or admission, patient age 50-75 at start of measurement period, multiple encounters codes accepted:

- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307)

- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001)
- Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, …1025)
- Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016)
- Annual wellness care (Value Set 2.16.840.1.113883.3.526.3.1240)
- Nursing facility visit
- Services in long-term residential facility

See Appendix A for Value Set information.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

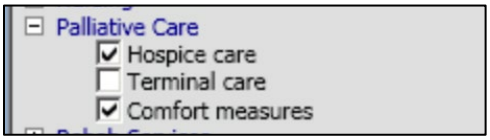


Figure 3-18: Palliative Care list

Exclude patients with diagnosis of either of the following:

- Malignant Neoplasm of Colon (Value Set: 2.16.840.1.113883.3.464.1003.108.12.1001).
- Total Colectomy (Value Set: 2.16.840.1.113883.3.464.1003.108.12.1020).

Include in numerator any of the following ordered and resulted:

- Colonoscopy within 10 years of end of measurement period.
- Sigmoidoscopy within 5 years of end of measurement period.
- FOBT (Stool guaiac) resulted during measurement period.
- FIT-DNA resulted within 3 years of end of measurement period.
- CT Colonography within 5 years of end of measurement period.

3.10.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- valueset "Acute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1083)

- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1003.110.12.1082)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Colonoscopy" (2.16.840.1.113883.3.464.1003.108.12.1020)
- valueset "CT Colonography" (2.16.840.1.113883.3.464.1003.108.12.1038)
- valueset "Dementia Medications" (2.16.840.1.113883.3.464.1003.196.12.1510)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Fecal Occult Blood Test (FOBT)" (2.16.840.1.113883.3.464.1003.198.12.1011)
- valueset "FIT DNA" (2.16.840.1.113883.3.464.1003.108.12.1039)
- valueset "Flexible Sigmoidoscopy" (2.16.840.1.113883.3.464.1003.198.12.1010)
- valueset "Frailty Device" (2.16.840.1.113883.3.464.1003.118.12.1300)
- valueset "Frailty Diagnosis" (2.16.840.1.113883.3.464.1003.113.12.1074)
- valueset "Frailty Encounter" (2.16.840.1.113883.3.464.1003.101.12.1088)
- valueset "Frailty Symptom" (2.16.840.1.113883.3.464.1003.113.12.1075)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Malignant Neoplasm of Colon" (2.16.840.1.113883.3.464.1003.108.12.1001)
- valueset "Nonacute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1084)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)

- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Total Colectomy" (2.16.840.1.113883.3.464.1003.198.12.1019)

3.10.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074)"
- "Diagnosis: Malignant Neoplasm of Colon" using "Malignant Neoplasm of Colon (2.16.840.1.113883.3.464.1003.108.12.1001)"
- "Diagnostic Study, Performed: CT Colonography" using "CT Colonography (2.16.840.1.113883.3.464.1003.108.12.1038)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"

- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1003.101.12.1088)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Laboratory Test, Performed: Fecal Occult Blood Test (FOBT)" using "Fecal Occult Blood Test (FOBT) (2.16.840.1.113883.3.464.1003.198.12.1011)"

- "Laboratory Test, Performed: FIT DNA" using "FIT DNA (2.16.840.1.113883.3.464.1003.108.12.1039)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1003.196.12.1510)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Colonoscopy" using "Colonoscopy (2.16.840.1.113883.3.464.1003.108.12.1020)"
- "Procedure, Performed: Flexible Sigmoidoscopy" using "Flexible Sigmoidoscopy (2.16.840.1.113883.3.464.1003.198.12.1010)"
- "Procedure, Performed: Total Colectomy" using "Total Colectomy (2.16.840.1.113883.3.464.1003.198.12.1019)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"

3.11 CMS131v10 Diabetes: Eye Exam

3.11.1 Detail

Description	Percentage of patients 18-75 years of age with diabetes and an active diagnosis of retinopathy overlapping the measurement period who had a retinal or dilated eye exam by an eye care professional during the measurement period or diabetics with no diagnosis of retinopathy overlapping the measurement period who had a retinal or dilated eye exam by an eye care professional during the measurement period or in the 12 months prior to the measurement period

Rationale	Diabetes is the seventh leading cause of death in the United States. In 2017, diabetes affected approximately 34 million Americans (10.5 percent of the U.S. population) and killed approximately 84,000 people (Centers for Disease Control and Prevention [CDC], 2020a). Diabetes is a long-lasting disease marked by high blood glucose levels, resulting from the body's inability to produce or use insulin properly (CDC, 2020b). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney damage, and amputation of feet or legs, and premature death (CDC, 2018). In 2017, diabetes cost the U.S. an estimated $327 billion: $237 billion in direct medical costs and $90 billion in reduced productivity. This is a 34 percent increase from the estimated $245 billion spent on diabetes in 2012 (American Diabetes Association, 2018). Diabetic retinopathy is progressive damage to the small blood vessels in the retina that may result in loss of vision. It is the leading cause of blindness in adults between 20-74 years of age. Approximately 4.1 million adults are affected by diabetic retinopathy (CDC, 2020c).
Clinical Recommendation Statement	American Diabetes Association (2020): - Adults with type 1 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist within 5 years after the onset of diabetes. (Level of evidence: B) - Patients with type 2 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist at the time of the diabetes diagnosis. (Level of evidence: B) -If there is no evidence of retinopathy for one or more annual eye exam and glycemia is well controlled, then screening every 1–2 years may be considered. If any level of diabetic retinopathy is present, subsequent dilated retinal examinations should be repeated at least annually by an ophthalmologist or optometrist. If retinopathy is progressing or sight threatening, then examinations will be required more frequently. (Level of evidence: B)
Guidance	Only patients with a diagnosis of Type 1 or Type 2 diabetes should be included in the denominator of this measure; patients with a diagnosis of secondary diabetes due to another condition should not be included. The eye exam must be performed by an ophthalmologist or optometrist, or there must be evidence that fundus photography results were read by a system that provides an artificial intelligence (AI) interpretation. This eCQM is a patient-based measure.
Initial Population	Patients 18-75 years of age with diabetes with a visit during the measurement period.
Denominator	Equals Initial Population.

Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period. Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period. Exclude patients 66 and older with an indication of frailty for any part of the measurement period who meet any of the following criteria: - Advanced illness with two outpatient encounters during the measurement period or the year prior - OR advanced illness with one inpatient encounter during the measurement period or the year prior - OR taking dementia medications during the measurement period or the year prior Exclude patients receiving palliative care during the measurement period.
Numerator	Patients with an eye screening for diabetic retinal disease. This includes diabetics who had one of the following: •Diabetic with a diagnosis of retinopathy in any part of the measurement period and a retinal or dilated eye exam by an eye care professional in the measurement period •Diabetic with no diagnosis of retinopathy in any part of the measurement period and a retinal or dilated eye exam by an eye care professional in the measurement period or the year prior to the measurement period
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.11.2 Data Entry

Description	Percentage of patients 18-75 years of age with diabetes and an active diagnosis of retinopathy in any part of the measurement period who had a retinal or dilated eye exam by an eye care professional during the measurement period or diabetics with no diagnosis of retinopathy in any part of the measurement period who had a retinal or dilated eye exam by an eye care professional during the measurement period or in the 12 months prior to the measurement period.

Visit or admit patient with any diabetes diagnosis (see value sets), age 18-75 at start of measurement period. Multiple encounter codes accepted:

- Inpatient (Value set 2.16.840.1.113883.3.666.5.307).
- Office visit (Value set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Annual wellness visit (Value set 2.16.840.1.113883.3.526.3.1240).

- Preventive care (Value sets 2.16.840.1.113883.3.464.1003.101.12.1023, ….1025).
- Ophthalmologic visit (Value set 2.16.840.1.113883.3.526.3.1285).
- Home healthcare (Value set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Nursing facility visit
- Services in long-term residential facility

See Appendix A for information on using Value Sets.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

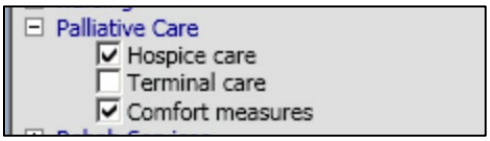


Figure 3-19: Palliative Care list

Include in numerator if any of the following:

- Diabetes eye exam (wellness tab), result = normal/negative within 1 year of start of measurement period:

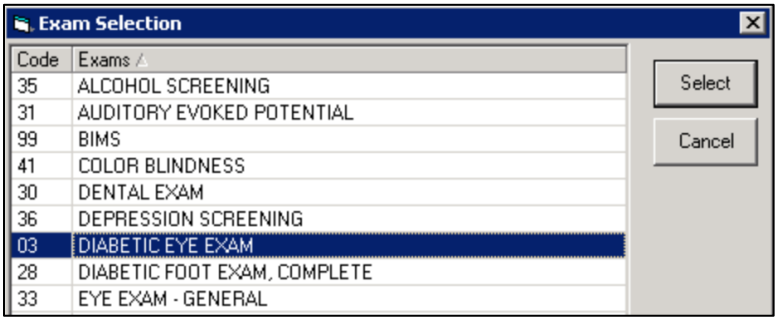


Figure 3-20: Exam Selection dialog

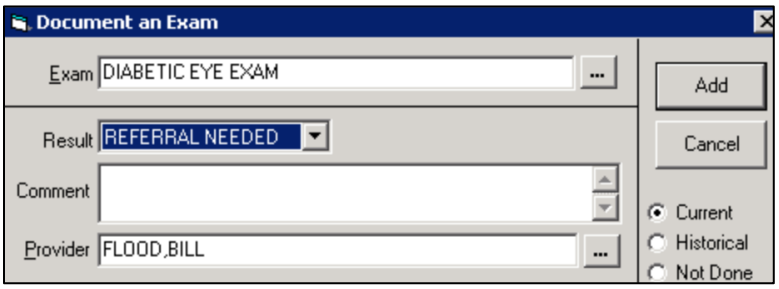


Figure 3-21: Exam Selection dialog

- Ophthalmologic visit with documented dilated eye exam during measurement period:

- Diagnosis of diabetic retinopathy: 2.16.840.1.113883.3.526.3.327

3.11.3 Terminology

- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- valueset "Acute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1083)
- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1003.110.12.1082)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Dementia Medications" (2.16.840.1.113883.3.464.1003.196.12.1510)
- valueset "Diabetes" (2.16.840.1.113883.3.464.1003.103.12.1001)
- valueset "Diabetic Retinopathy" (2.16.840.1.113883.3.526.3.327)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Frailty Device" (2.16.840.1.113883.3.464.1003.118.12.1300)
- valueset "Frailty Diagnosis" (2.16.840.1.113883.3.464.1003.113.12.1074)
- valueset "Frailty Encounter" (2.16.840.1.113883.3.464.1003.101.12.1088)
- valueset "Frailty Symptom" (2.16.840.1.113883.3.464.1003.113.12.1075)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Nonacute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1084)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Ophthalmological Services" (2.16.840.1.113883.3.526.3.1285)
- valueset "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)

- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Retinal or Dilated Eye Exam" (2.16.840.1.113883.3.464.1003.115.12.1088)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.11.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Diagnosis: Diabetes" using "Diabetes (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: Diabetic Retinopathy" using "Diabetic Retinopathy (2.16.840.1.113883.3.526.3.327)"
- "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"

- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1003.101.12.1088)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Ophthalmological Services" using "Ophthalmological Services (2.16.840.1.113883.3.526.3.1285)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1003.196.12.1510)"

- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Performed: Retinal or Dilated Eye Exam" using "Retinal or Dilated Eye Exam (2.16.840.1.113883.3.464.1003.115.12.1088)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"

3.12 CMS134v10 Diabetes: Medical Attention for Nephropathy

3.12.1 Detail

Description	The percentage of patients 18-75 years of age with diabetes who had a nephropathy screening test or evidence of nephropathy during the measurement period.
Rationale	Diabetes is the seventh leading cause of death in the United States. In 2017, diabetes affected approximately 34 million Americans (10.5 percent of the U.S. population) and killed approximately 84,000 people (CDC, 2020a). Diabetes is a long-lasting disease marked by high blood glucose levels, resulting from the body's inability to produce or use insulin properly (CDC, 2020b). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney damage, and amputation of feet or legs (CDC, 2018). In 2017, diabetes cost the U.S. an estimated $327 billion: $237 billion in direct medical costs and $90 billion in reduced productivity. This is a 34 percent increase from the estimated $245 billion spent on diabetes in 2012 (American Diabetes Association [ADA], 2018). High blood sugar levels in patients with diabetes put them at a higher risk of damaging their kidneys and causing kidney disease (ADA, 2020a). Kidney disease is one of the most common adverse outcomes of diabetes, affecting 20-40 percent of patients with diabetes. Kidney Disease can lead to kidney failure and is the leading cause of end stage renal disease (ESRD) (ADA, 2020b). In 2013, there were more than 51,000 new cases of kidney failure among people with diabetes (National Kidney Foundation, 2016). In 2014, diabetes accounted for 44% of 118,000 new cases of ESRD (United States Renal Data System, 2016).

Clinical Recommendation Statement	American Diabetes Association (2020): Screening – At least once a year, assess urinary albumin (e.g., spot urinary albumin-to-creatinine ratio [UACR]) and estimated glomerular filtration rate (eGFR) in patients with type 1 diabetes with duration of >=5 years, and in all patients with type 2 diabetes, regardless of treatment. (Level of evidence: B) – Patients with urinary albumin >30 mg/g creatinine and/or an eGFR <60 mL/min/1.73m2 should be monitored twice annually to guide therapy. (Level of evidence: C) Treatment – An angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) is not recommended for the primary prevention of chronic kidney disease in patients with diabetes who have normal blood pressure, normal UACR (<30 mg/g creatinine), and normal estimated glomerular filtration rate. (Level of evidence: B) – In nonpregnant patients with diabetes and hypertension, either an ACE inhibitor or ARB is recommended for those with modestly elevated UACR (30-299 mg/g creatinine) (Level of evidence: B) and is strongly recommended for those with UACR >=300 mg/g creatinine and/or eGFR <60 mL/min/1.73.m2. (Level of evidence: A) – Periodically monitor serum creatinine and potassium levels for the development of increased creatinine or changes in potassium when ACE inhibitors, ARB, or diuretics are used. (Level of evidence: B) – Patients should be referred for evaluation by a nephrologist if they have an eGFR <30 mL/min/1.73 m2. (Level of evidence: A) – Promptly refer to a physician experienced in the care of kidney disease for uncertainty about the etiology of kidney disease, difficult management issues, and rapidly progressing kidney disease. (Level of evidence: A) American Association of Clinical Endocrinologists & American College of Endocrinology (2015): – Beginning 5 years after diagnosis in patients with type 1 diabetes (if diagnosed before age 30) or at diagnosis in patients with type 2 diabetes and those with type 1 diabetes diagnosed after age 30, annual assessment of serum creatinine to determine the estimated glomerular filtration rate (eGFR) and urine albumin excretion rate (AER) should be performed to identify, stage, and monitor progression of diabetic nephropathy. (Grade C; best evidence level 3) – Patients with nephropathy should be counseled regarding the need for optimal glycemic control, blood pressure control, dyslipidemia control, and smoking cessation. (Grade B; best evidence level 2)

	– In addition, they should have routine monitoring of albuminuria, kidney function electrolytes, and lipids. (Grade B; best evidence level 2) – Associated conditions such as anemia and bone and mineral disorders should be assessed as kidney function declines. (Grade D; best evidence level 4) – Referral to a nephrologist is recommended well before the need for renal replacement therapy. (Grade D; best evidence level 4).
Guidance	Only patients with a diagnosis of Type 1 or Type 2 diabetes should be included in the denominator of this measure; patients with a diagnosis of secondary diabetes due to another condition should not be included.
Initial Population	Patients 18-75 years of age with diabetes with a visit during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period. Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period. Exclude patients 66 and older with an indication of frailty for any part of the measurement period who meet any of the following criteria: – Advanced illness with two outpatient encounters during the measurement period or the year prior – OR advanced illness with one inpatient encounter during the measurement period or the year prior – OR taking dementia medications during the measurement period or the year prior Exclude patients receiving palliative care during the measurement period.
Numerator	Patients with a screening for nephropathy or evidence of nephropathy during the measurement period.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.12.2 Data Entry

Description	The percentage of patients 18-75 years of age with diabetes who had a nephropathy screening test or evidence of nephropathy during the measurement period.

Visit or admission, patient with diagnosis of diabetes, age 18-75 at start of measurement period. Multiple encounter codes accepted.

- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, ….1025).
- Annual wellness visit (Value Set 2.16.840.1.113883.3.526.3.1240).
- Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Nursing facility visit
- Long-term residential facility visit
- End Stage Renal Disease (ESRD) Monthly Outpatient Services (Value Set 2.16.840.1.113883.3.464.1003.109.12.1014).

See Appendix A for information about using Value Sets.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

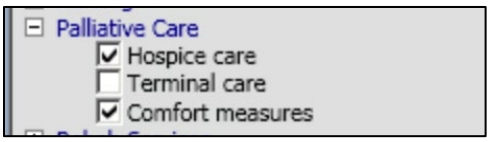


Figure 3-22: Palliative Care list

Include in numerator:

- Rx for ACE Inhibitor or ARB (active, can be outside med or internal order, processed) (Value Set: 2.16.840.1.113883.3.526.3.1139).
- Nephropathy diagnosis (multiple options) including:
  - Hypertensive chronic kidney disease (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1017).
  - Kidney failure (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1028).
  - Diabetic nephropathy (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1004).
  - Glomerulonephritis and Nephrotic Syndrome (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1018).
  - Procedures including:

- Kidney transplant (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1012).
- Vascular access for dialysis (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1011).
- Dialysis services (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1013).
- Diagnoses including:
  - Dialysis care as POV.
- Education:
  - Dialysis education (wellness tab) (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1016).
- ESRD Monthly OPD Services (CPT) (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1014).
- Lab tests for urine protein (multiple including POC if set up) resulted during measurement period (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1024).

3.12.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- valueset "ACE Inhibitor or ARB or ARNI" (2.16.840.1.113883.3.526.3.1139)
- valueset "Acute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1083)
- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1003.110.12.1082)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Dementia Medications" (2.16.840.1.113883.3.464.1003.196.12.1510)
- valueset "Diabetes" (2.16.840.1.113883.3.464.1003.103.12.1001)
- valueset "Diabetic Nephropathy" (2.16.840.1.113883.3.464.1003.109.12.1004)
- valueset "Dialysis Education" (2.16.840.1.113883.3.464.1003.109.12.1016)
- valueset "Dialysis Services" (2.16.840.1.113883.3.464.1003.109.12.1013)

- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "ESRD Monthly Outpatient Services" (2.16.840.1.113883.3.464.1003.109.12.1014)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Frailty Device" (2.16.840.1.113883.3.464.1003.118.12.1300)
- valueset "Frailty Diagnosis" (2.16.840.1.113883.3.464.1003.113.12.1074)
- valueset "Frailty Encounter" (2.16.840.1.113883.3.464.1003.101.12.1088)
- valueset "Frailty Symptom" (2.16.840.1.113883.3.464.1003.113.12.1075)
- valueset "Glomerulonephritis and Nephrotic Syndrome" (2.16.840.1.113883.3.464.1003.109.12.1018)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Hypertensive Chronic Kidney Disease" (2.16.840.1.113883.3.464.1003.109.12.1017)
- valueset "Kidney Failure" (2.16.840.1.113883.3.464.1003.109.12.1028)
- valueset "Kidney Transplant" (2.16.840.1.113883.3.464.1003.109.12.1012)
- valueset "Nonacute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1084)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Other Services Related to Dialysis" (2.16.840.1.113883.3.464.1003.109.12.1015)
- valueset "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)
- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)

- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Proteinuria" (2.16.840.1.113883.3.526.3.1003)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Urine Protein Tests" (2.16.840.1.113883.3.464.1003.109.12.1024)

3.12.4 Data Criteria (QDM Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Diagnosis: Diabetes" using "Diabetes (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: Diabetic Nephropathy" using "Diabetic Nephropathy (2.16.840.1.113883.3.464.1003.109.12.1004)"
- "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074)"
- "Diagnosis: Glomerulonephritis and Nephrotic Syndrome" using "Glomerulonephritis and Nephrotic Syndrome (2.16.840.1.113883.3.464.1003.109.12.1018)"
- "Diagnosis: Hypertensive Chronic Kidney Disease" using "Hypertensive Chronic Kidney Disease (2.16.840.1.113883.3.464.1003.109.12.1017)"
- "Diagnosis: Kidney Failure" using "Kidney Failure (2.16.840.1.113883.3.464.1003.109.12.1028)"
- "Diagnosis: Proteinuria" using "Proteinuria (2.16.840.1.113883.3.526.3.1003)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"

- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: ESRD Monthly Outpatient Services" using "ESRD Monthly Outpatient Services (2.16.840.1.113883.3.464.1003.109.12.1014)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1003.101.12.1088)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Dialysis Education" using "Dialysis Education (2.16.840.1.113883.3.464.1003.109.12.1016)"

- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Other Services Related to Dialysis" using "Other Services Related to Dialysis (2.16.840.1.113883.3.464.1003.109.12.1015)"
- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Laboratory Test, Performed: Urine Protein Tests" using "Urine Protein Tests (2.16.840.1.113883.3.464.1003.109.12.1024)"
- "Medication, Active: ACE Inhibitor or ARB or ARNI" using "ACE Inhibitor or ARB or ARNI (2.16.840.1.113883.3.526.3.1139)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1003.196.12.1510)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Dialysis Services" using "Dialysis Services (2.16.840.1.113883.3.464.1003.109.12.1013)"
- "Procedure, Performed: Kidney Transplant" using "Kidney Transplant (2.16.840.1.113883.3.464.1003.109.12.1012)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"

3.13 CMS137v10 Initiation and Engagement of Alcohol and Other Drug Dependence Treatment

3.13.1 Detail

Description	Percentage of patients 13 years of age and older with a new episode of alcohol or other drug abuse or (AOD) dependence who received the following. Two rates are reported. a. Percentage of patients who initiated treatment including either an intervention or medication for the treatment of AOD abuse or dependence within 14 days of the diagnosis b. Percentage of patients who engaged in ongoing treatment including two additional interventions or a medication for the treatment of AOD abuse or dependence within 34 days of the initiation visit. For patients who initiated treatment with a medication, at least one of the two engagement events must be a treatment intervention
Stratification	Report a total score, and each of the following strata: Stratum 1: Patients age 13-17 at the end of the measurement period. Stratum 2: Patients age >=18 at the end of the measurement period.
Rationale	There are more deaths, illnesses and disabilities from substance abuse than from any other preventable health condition. In 2018, 20.3 million individuals in the U.S. age 12 or older (approximately 8 percent of the population) were classified as having an SUD within the past year (SAMHSA, 2019). Despite the high prevalence of SUD in the U.S., fewer than 20 percent of individuals with SUD receive any substance use treatment and only 12 percent receive treatment in a specialty SUD program (SAMHSA, 2019).

Clinical Recommendation Statement	American Society of Addiction Medicine (2020) * All FDA approved medications for the treatment of opioid use disorder should be available to all patients. Clinicians should consider the patient's preferences, past treatment history, current state of illness, and treatment setting when deciding between the use of methadone, buprenorphine, and naltrexone. * There is no recommended time limit for pharmacological treatment * Patients' psychosocial needs should be assessed, and patients should be offered or referred to psychosocial treatment based on their individual needs. However, a patient's decision to decline psychosocial treatment or the absence of available psychosocial treatment should not preclude or delay pharmacotherapy, with appropriate medication management. Motivational interviewing or enhancement can be used to encourage patients to engage in psychosocial treatment services appropriate for addressing individual needs. American Psychiatric Association (2018) • Patients with alcohol use disorder should have a documented comprehensive and person-centered treatment plan that includes evidence-based nonpharmacological and pharmacological treatments. [1C] • Naltrexone or acamprosate be offered to patients with moderate to severe alcohol use disorder who have a goal of reducing alcohol consumption or achieving abstinence, prefer pharmacotherapy or have not responded to nonpharmacological treatments alone, and have no contraindications to the use of these medications. [1B] • Disulfiram should be offered to patients with moderate to severe alcohol use disorder who have a goal of achieving abstinence, prefer disulfiram or are intolerant to or have not responded to naltrexone and acamprosate, are capable of understanding the risks of alcohol consumption while taking disulfiram, and have no contraindications to the use of this medication. [2C] • Topiramate or gabapentin be offered to patients with moderate to severe alcohol use disorder who have a goal of reducing alcohol consumption or achieving abstinence, prefer topiramate or gabapentin or are intolerant to or have not responded to naltrexone and acamprosate, and have no contraindications to the use of these medications. [2C] American Psychiatric Association (2006) • Because many substance use disorders are chronic, patients usually require long-term treatment, although the intensity and specific components of treatment may vary over time [I rating]. • It is important to intensify the monitoring for substance use during periods when the patient is at a high risk of relapsing, including during the early stages of treatment, times of transition to less intensive levels of care, and the first year after active treatment has ceased [I rating]. • Outpatient treatment of substance use disorders is appropriate for patients whose clinical condition or environmental circumstances do not require a more intensive level of care [I rating]. As in other

	treatment settings, a comprehensive approach is optimal, using, where indicated, a variety of psychotherapeutic and pharmacological interventions along with behavioral monitoring [I rating]. • Disulfiram is also recommended for patients with alcohol dependence [II rating]. • Naltrexone, injectable naltrexone, acamprosate, a y-aminobutyric acid (GABA) are recommended for patients with alcohol dependence [I rating]. Disulfiram is also recommended for patients with alcohol dependence [II rating]. • Methadone and buprenorphine are recommended for patients with opioid dependence [I rating]. • Naltrexone is an alternative strategy [I rating]. American Society of Addiction Medicine (2015) • Methadone and buprenorphine are recommended for opioid use disorder treatment and withdrawal management. • Naltrexone (oral; extended-release injectable) is recommended for relapse prevention. Michigan Quality Improvement Consortium (2017) • Patients with substance use disorder or risky substance use: Patient Education and Brief Intervention by PCP or Trained Staff (e.g. RN, MSW) • If diagnosed with substance use disorder or risky substance use, initiate an intervention within 14 days. • Frequent follow-up is helpful to support behavior change; preferably 2 visits within 30 days. • Refer to a substance abuse health specialist, an addiction physician specialist, or a physician experienced in pharmacologic management of addiction. Department of Veterans Affairs/Department of Defense (2015) • Offer referral to specialty SUD care for addiction treatment if based on willingness to engage. [B] • For patients with moderate-severe alcohol use disorder, we recommend: Acamprosate, Disulfiram, Naltrexone- oral or extended release, or Topiramate. [A] • Medications should be offered in combined with addiction-focused counseling. offering one or more of the following interventions considering patient preference and provider training/competence: Behavioral Couples Therapy for alcohol use disorder, Cognitive Behavioral Therapy for substance use disorders, Community Reinforcement Approach, Motivational Enhancement Therapy, 12-Step Facilitation. [A] • For patients with opioid use disorder we recommend buprenorphine/naloxone or methadone in an Opioid Treatment Program. For patients for whom agonist treatment is contraindicated, unacceptable, unavailable, or discontinued, we recommend extended-release injectable naltrexone. [A]

	• For patients initiated in an intensive phase of outpatient or residential treatment, recommend ongoing systematic relapse prevention efforts or recovery support, individualized on the basis of treatment response. [A]
Definition	The initiation visit is the first visit for alcohol or other drug dependence treatment within 14 days after a diagnosis of alcohol or other drug dependence. Treatment includes inpatient AOD admissions, outpatient visits, intensive outpatient encounters or partial hospitalization. The Intake Period: January 1-November 14 of the measurement year. The Intake Period is used to capture new episodes of Alcohol or Drug Dependence. The November 14 cut-off date ensures that all services can occur before the measurement period ends.
Guidance	The new episode of alcohol and other drug dependence should be the first episode of the measurement period that is not preceded in the 60 days prior by another episode of alcohol or other drug dependence.
Initial Population	Patients age 13 years of age and older who were diagnosed with a new episode of alcohol, opioid, or other drug abuse or dependency during a visit between January 1 and November 14 of the measurement period.
Denominator	Equals Initial Population
Denominator Exclusions	Exclude patients with a negative diagnosis history, defined as an encounter or medication treatment for a diagnosis of alcohol, opioid, or other drug abuse or dependence in the 60 days prior to the first episode of alcohol or drug dependence. Exclude patients who are in hospice care for any part of the measurement period.
Numerator	Numerator 1: Initiation of treatment includes either an intervention or medication for the treatment of AOD abuse or dependence within 14 days of the diagnosis. Numerator 2: Engagement in ongoing treatment within 34 days of initiation includes: 1. Patients that initiated treatment with a psychosocial visit, and whose engagement criteria was fulfilled by a dispensed medication. 2. Patients that initiated treatment with a psychosocial visit, and whose engagement criteria was fulfilled by two further psychosocial visits. 3. Patients that initiated treatment with a dispensed medication, and whose engagement criteria was fulfilled by both a further medication dispense and a psychosocial visit. 4. Patients that initiated treatment with a dispensed medication, and whose engagement criteria was fulfilled by two psychosocial visits.
Numerator Exclusions	Not Applicable

Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.13.2 Data Entry

Description	Percentage of patients 13 years of age and older with a new episode of AOD dependence who received the following. Two rates are reported: Percentage of patients who initiated treatment within 14 days of the diagnosis. Percentage of patients who initiated treatment and who had two or more additional services with an AOD diagnosis within 30 days of the initiation visit.

Visit or admit, patient 13 years or older at start of measurement period. Multiple encounter codes accepted:

- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Detoxification visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1059).
- Discharge services – hospital same day discharge (Value Set 2.16.840.1.113883.3.464.1003.101.12.1006).
- Discharge services-hospital inpatient (Value Set 2.16.840.1.113883.3.464.1003.101.12.1007).
- ER visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1010).
- Hospital observation care (Value Set 2.16.840.1.113883.3.464.1003.101.12.1002).
- Hospital inpatient visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1004).
- Telehealth services 2.16.840.1.113883.3.464.1003.101.12.1031
- Alcohol and Drug Dependence Treatment: 2.16.840.1.113883.3.464.1003.106.12.1005
- Psych visit, Psychotherapy: 2.16.840.1.113883.3.526.3.1496

See Appendix A for information on using Value Sets.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

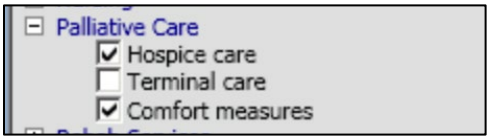


Figure 3-23: Palliative Care list

- Diagnosis of alcohol or substance abuse must be the first time diagnosed during the current measurement period (any prior diagnosis, even in a different measurement period, must be at least 60 days earlier), otherwise exclude patient from denominator.

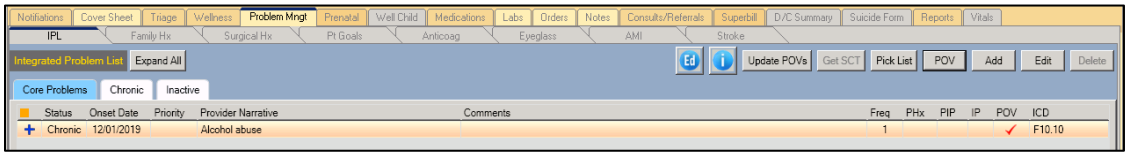


Figure 3-24: Problem Management tab

- Diagnosis of alcohol or substance abuse must be within the first 319 days of the measurement period (Jan 1 to Nov 15) to allow time for follow up.
- Document Alcohol and Drug Treatment on IPL (TREG) (Any of the following):

Figure 3-25: Care Planning Activities

Numerators (2) (if Medications are used for treatment, they must be finished by pharmacy):

- Encounter for psychotherapy or “alcohol and drug dependence treatment” within 14 days of first diagnosis:
  - Stratification 1: Age 13<18 at start of measurement period.
  - Stratification 2: Age 18+.
- Two or more encounters for psychotherapy or alcohol and drug dependence treatment within 30 days of first diagnosis:
  - Stratification 1: Age 13<18 at start of measurement period.

– Stratification 2: Age 18+.

3.13.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- valueset "Alcohol and Drug Dependence" (2.16.840.1.113883.3.464.1003.106.12.1001)
- valueset "Alcohol and Drug Dependence Treatment" (2.16.840.1.113883.3.464.1003.106.12.1005)
- valueset "Detoxification Visit" (2.16.840.1.113883.3.464.1003.101.12.1059)
- valueset "Discharge Services - Hospital Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1007)
- valueset "Discharge Services - Hospital Inpatient Same Day Discharge" (2.16.840.1.113883.3.464.1003.101.12.1006)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Hospital Inpatient Visit - Initial" (2.16.840.1.113883.3.464.1003.101.12.1004)
- valueset "Hospital Observation Care - Initial" (2.16.840.1.113883.3.464.1003.101.12.1002)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Opiate Antagonists" (2.16.840.1.113883.3.464.1003.198.12.1132)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Psych Visit - Psychotherapy" (2.16.840.1.113883.3.526.3.1496)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.13.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Alcohol and Drug Dependence" using "Alcohol and Drug Dependence (2.16.840.1.113883.3.464.1003.106.12.1001)"
- "Encounter, Performed: Detoxification Visit" using "Detoxification Visit (2.16.840.1.113883.3.464.1003.101.12.1059)"
- "Encounter, Performed: Discharge Services - Hospital Inpatient" using "Discharge Services - Hospital Inpatient (2.16.840.1.113883.3.464.1003.101.12.1007)"
- "Encounter, Performed: Discharge Services - Hospital Inpatient Same Day Discharge" using "Discharge Services - Hospital Inpatient Same Day Discharge (2.16.840.1.113883.3.464.1003.101.12.1006)"
- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Hospital Inpatient Visit - Initial" using "Hospital Inpatient Visit - Initial (2.16.840.1.113883.3.464.1003.101.12.1004)"
- "Encounter, Performed: Hospital Observation Care - Initial" using "Hospital Observation Care - Initial (2.16.840.1.113883.3.464.1003.101.12.1002)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Alcohol and Drug Dependence Treatment" using "Alcohol and Drug Dependence Treatment (2.16.840.1.113883.3.464.1003.106.12.1005)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Psych Visit - Psychotherapy" using "Psych Visit - Psychotherapy (2.16.840.1.113883.3.526.3.1496)"
- "Medication, Order: Opiate Antagonists" using "Opiate Antagonists (2.16.840.1.113883.3.464.1003.198.12.1132)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.14 CMS138v10 Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention

3.14.1 Detail

Description	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times during the measurement period AND who received tobacco cessation intervention if identified as a tobacco user Three rates are reported: a. Percentage of patients aged 18 years and older who were screened for tobacco use one or more times during the measurement period b. Percentage of patients aged 18 years and older who were identified as a tobacco user who received tobacco cessation intervention c. Percentage of patients aged 18 years and older who were screened for tobacco use one or more times during the measurement period AND who received tobacco cessation intervention if identified as a tobacco user
Rationale	This measure is intended to promote adult tobacco screening and tobacco cessation interventions for those who use tobacco products. There is good evidence that tobacco screening and brief cessation intervention (including counseling and/or pharmacotherapy) is successful in helping tobacco users quit. Tobacco users who are able to stop using tobacco lower their risk for heart disease, lung disease, and stroke.

Clinical Recommendation Statement	The USPSTF recommends that clinicians ask all adults about tobacco use, advise them to stop using tobacco, and provide behavioral interventions and U.S. Food and Drug Administration (FDA)-approved pharmacotherapy for cessation to adults who use tobacco (Grade A Recommendation) (U.S. Preventive Services Task Force, 2015). The USPSTF recommends that clinicians ask all pregnant women about tobacco use, advise them to stop using tobacco, and provide behavioral interventions for cessation to pregnant women who use tobacco (Grade A Recommendation) (U.S. Preventive Services Task Force, 2015). The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of pharmacotherapy interventions for tobacco cessation in pregnant women (Grade I Statement) (U.S. Preventive Services Task Force, 2015). The USPSTF concludes that the current evidence is insufficient to recommend electronic nicotine delivery systems for tobacco cessation in adults, including pregnant women. The USPSTF recommends that clinicians direct patients who smoke tobacco to other cessation interventions with established effectiveness and safety (previously stated) (Grade I Statement) (U.S. Preventive Services Task Force, 2015).
Improvement Notation	Higher score indicates better quality.
Definition	Tobacco Use - Includes any type of tobacco Tobacco Cessation Intervention - Includes brief counseling (3 minutes or less), and/or pharmacotherapy -- Note: Concepts aligned with brief counseling (e.g., minimal and intensive advice/counseling interventions conducted both in person and over the phone) are included in the value set for the numerator. Other concepts such as written self-help materials (e.g., brochures, pamphlets) and complementary/alternative therapies are not included in the value set and do not qualify for the numerator. Brief counseling also may be of longer duration or be performed more frequently, as evidence shows there is a dose-response relationship between the intensity of counseling provided (either length or frequency) and tobacco cessation rates (U.S. Preventive Services Task Force, 2015).

Guidance	The requirement of two or more visits is to establish that the eligible professional or eligible clinician has an existing relationship with the patient for certain types of encounters. To satisfy the intent of this measure, a patient must have at least one tobacco use screening during the 12-month period. If a patient has multiple tobacco use screenings during the 12-month period, only the most recent screening, which has a documented status of tobacco user or tobacco non-user, will be used to satisfy the measure requirements. If a patient uses any type of tobacco (i.e., smokes or uses smokeless tobacco), the expectation is that they should receive tobacco cessation intervention: either counseling and/or pharmacotherapy. As noted above in a recommendation statement from the USPSTF, the current evidence is insufficient to recommend electronic nicotine delivery systems (ENDS) including electronic cigarettes for tobacco cessation. Additionally, ENDS are not currently classified as tobacco in the recent evidence review to support the update of the USPSTF recommendation given that the devices do not burn or use tobacco leaves. In light of the current lack of evidence, the measure does not currently capture e-cigarette usage as either tobacco use or a cessation aid. If tobacco use status of a patient is unknown, the patient does not meet the screening component required to be counted in the numerator and should be considered a measure failure. Instances where tobacco use status of "unknown" is recorded include: 1) the patient was not screened; or 2) the patient was screened, and the patient (or caregiver) was unable to provide a definitive answer. If the patient does not meet the screening component of the numerator but has an allowable medical exception, then the patient should be removed from the denominator of the measure and reported as a valid exception. In order to promote a team-based approach to patient care, the tobacco cessation intervention can be performed by another healthcare provider; therefore, the tobacco use screening and tobacco cessation intervention do not need to be performed by the same provider or clinician. The medical reason exception may be applied to either the screening data element OR to any of the applicable tobacco cessation intervention data elements (counseling and/or pharmacotherapy) included in the measure. If a patient has a diagnosis of limited life expectancy, that patient has a valid denominator exception for not being screened for tobacco use or for not receiving tobacco use cessation intervention (counseling and/or pharmacotherapy) if identified as a tobacco user. This measure contains three reporting rates which aim to identify patients who were screened for tobacco use (rate/population 1), patients who were identified as tobacco users and who received tobacco cessation intervention (rate/population 2), and a comprehensive look at the overall performance on tobacco screening and cessation intervention (rate/population 3). By separating this measure into various reporting rates, the eligible professional or eligible clinician will be able to better ascertain where gaps in performance exist and identify opportunities for improvement. The overall rate (rate/population 3) can be utilized to compare performance to published versions of this measure prior to the 2018 performance year, when the measure had a single performance

	rate. For accountability reporting in the CMS MIPS program, the rate for population 2 is used for performance. The denominator of population criteria 2 is a subset of the resulting numerator for population criteria 1, as population criteria 2 is limited to assessing if patients identified as tobacco users received an appropriate tobacco cessation intervention. For all patients, population criteria 1 and 3 are applicable, but population criteria 2 will only be applicable for those patients who are identified as tobacco users. Therefore, data for every patient that meets the initial population criteria will only be submitted for population 1 and 3, whereas data submitted for population 2 will be for a subset of patients who meet the initial population criteria, as the denominator has been further limited to those who were identified as tobacco users.
Initial Population	All patients aged 18 years and older seen for at least two visits or at least one preventive visit during the measurement period
Denominator	Population 1: Equals Initial Population. Population 2: Equals Initial Population who were screened for tobacco use and identified as a tobacco user. Population 3: Equals Initial Population.
Denominator Exclusions	None
Numerator	Population 1: Patients who were screened for tobacco use at least once during the measurement period Population 2: Patients who received tobacco cessation intervention Population 3: Patients who were screened for tobacco use at least once during the measurement period AND who received tobacco cessation intervention if identified as a tobacco user
Numerator Exclusions	Not Applicable.
Denominator Exceptions	Population 1: Documentation of medical reason(s) for not screening for tobacco use (e.g., limited life expectancy, other medical reason) Population 2: Documentation of medical reason(s) for not providing tobacco cessation intervention (e.g., limited life expectancy, other medical reason) Population 3: Documentation of medical reason(s) for not screening for tobacco use OR for not providing tobacco cessation intervention for patients identified as tobacco users (e.g., limited life expectancy, other medical reason)

Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.14.2 Data Entry

Description	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times during the measurement period AND who received tobacco cessation intervention if identified as a tobacco user. Three rates are reported: Percentage of patients aged 18 years and older who were screened for tobacco use one or more times during the measurement period. Percentage of patients aged 18 years and older who were screened for tobacco use and identified as a tobacco user who received tobacco cessation intervention. Percentage of patients aged 18 years and older who were screened for tobacco use one or more times during the measurement period. AND who received tobacco cessation intervention if identified as a tobacco user.

There are 3 rates:

– Multiple codes accepted for encounter type – see Terminology section for this measure.

See Appendix A for information about using Value Sets.

– Document smoking status in Health Factors:

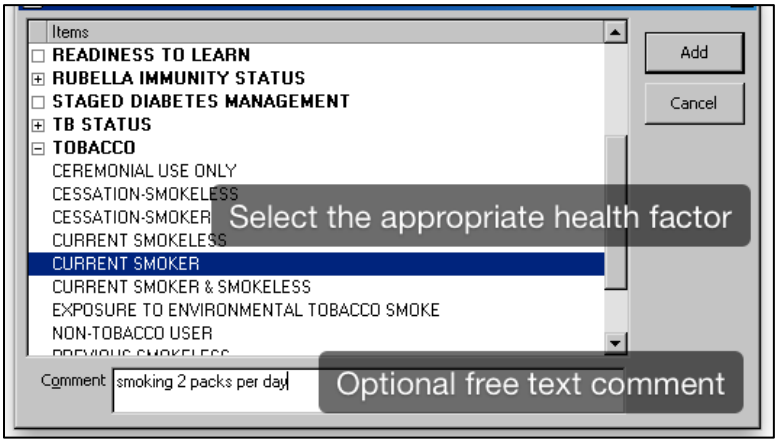


Figure 3-26:Add Health Factors

– Document intervention if identified as a tobacco user:

Counseling using Patient Ed (TO-QT):

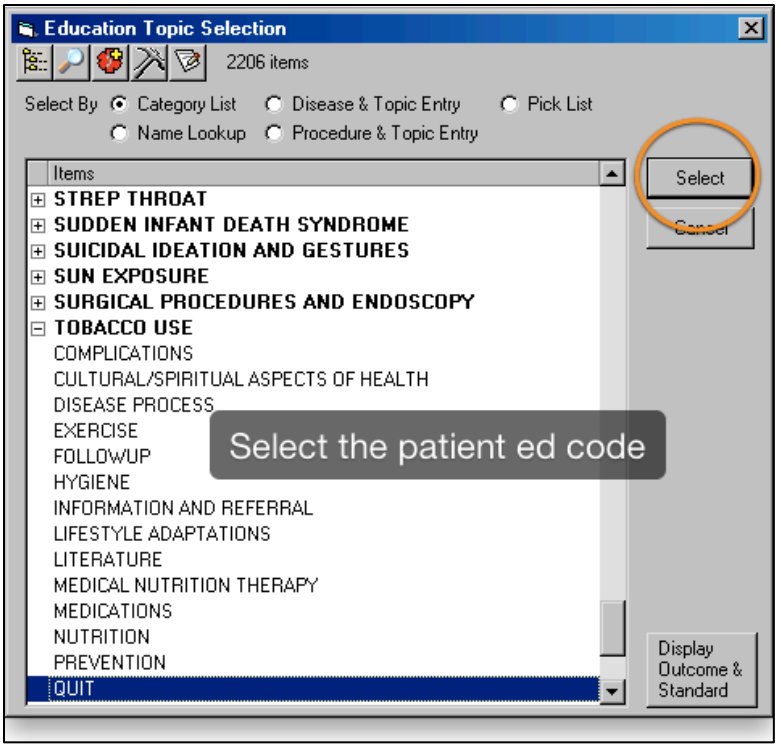
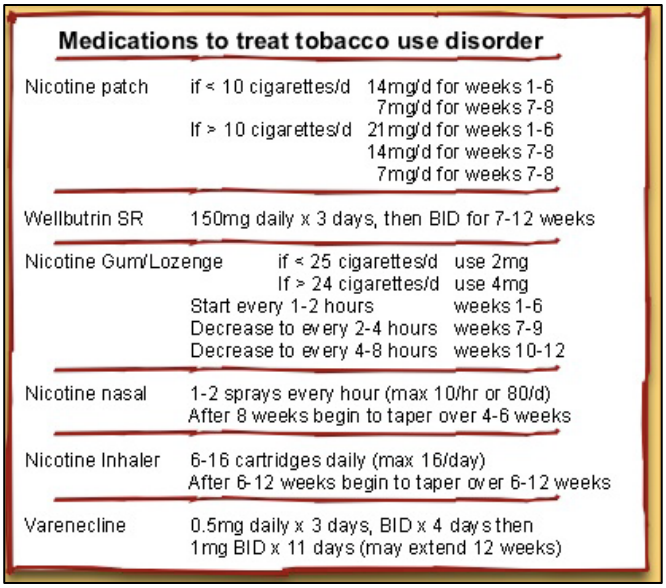


Figure 3-27: Education Topic Selection dialog

Order or active prescription for tobacco cessation therapy (Value Set: 2.16.840.1.113883.3.526.3.1190).



Medications to treat tobacco use disorder

Nicotine patch	if < 10 cigarettes/d	14mg/d for weeks 1-6 7mg/d for weeks 7-8
	If > 10 cigarettes/d	21mg/d for weeks 1-6 14mg/d for weeks 7-8 7mg/d for weeks 7-8
Wellbutrin SR	150mg daily x 3 days, then BID for 7-12 weeks	
Nicotine Gum/Lozenge	if < 25 cigarettes/d If > 24 cigarettes/d Start every 1-2 hours Decrease to every 2-4 hours Decrease to every 4-8 hours	use 2mg use 4mg weeks 1-6 weeks 7-9 weeks 10-12
Nicotine nasal	1-2 sprays every hour (max 10/hr or 80/d) After 8 weeks begin to taper over 4-6 weeks	
Nicotine Inhaler	6-16 cartridges daily (max 16/day) After 6-12 weeks begin to taper over 6-12 weeks	
Varenecline	0.5mg daily x 3 days, BID x 4 days then 1mg BID x 11 days (may extend 12 weeks)	

Figure 3-28: Medications to treat tobacco use disorder

– Change health factor to non-smoker/non-tobacco user:

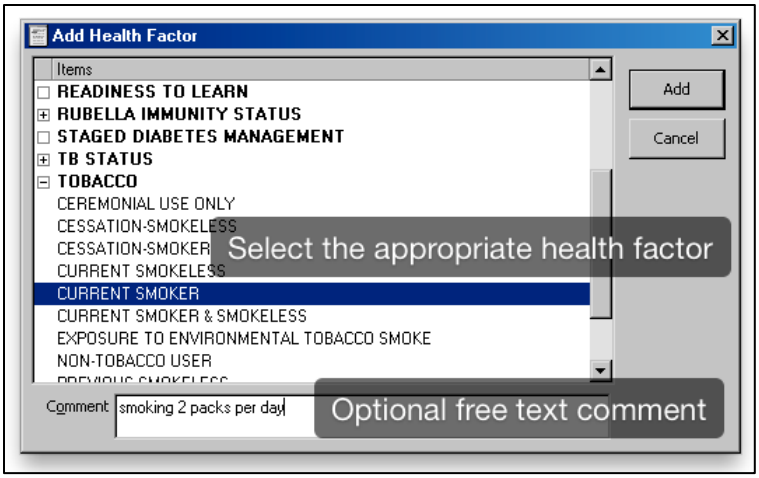


Figure 3-29: Add Health Factor dialog

First rate, screening only:

- Denominator 1:
  - Office visit age 18 or older at start of measurement period.
  - Either two office visits, OR one preventive care visit (See Value Sets) during measurement period.
- Numerator 1:
  - Screened within 24 months of end of measurement period.
  - Denominator Exceptions for limited life expectancy diagnosis (IPL) (Value Set: 2.16.840.1.113883.3.526.3.1259).
  - Or not screened for medical reasons (Value Set: 2.16.840.1.113883.3.526.3.1007).

Second Rate, tobacco users who received tobacco cessation intervention.

- Denominator 2:
  - Office visit age 18 or older:
  - Either two office visits or one preventive care visit during measurement period:
  - Screened and identified as tobacco user:
- Numerator 2:
  - Receiving cessation counseling for tobacco user after positive screen during measurement period (Value Set: 2.16.840.1.113883.3.526.3.509).
  - Taking tobacco cessation pharmacotherapy during measurement period (Value Set: 2.16.840.1.113883.3.526.3.1190).
  - Receive prescription for tobacco cessation pharmacotherapy after positive screen Denominator exceptions for limited life expectancy, counseling or pharmacotherapy not ordered for medical reasons.

Third Rate, patients screened and receive intervention if positive tobacco use screen:

- Denominator:
  - Same as denominator 1 (total patients screened, age 18+, 2 office visits or 1 preventive care visit).
- Numerator 3:
  - If screen positive, cessation counseling for tobacco user starts after positive screen during measurement period.
  - If screen positive, actively taking medication for tobacco cessation during measurement period.
  - If screen positive, new order for tobacco use cessation after positive screen during measurement period.
- Denominator exceptions:
  - Limited life expectancy diagnosis.
  - Tobacco use cessation counseling not performed for medical reason.
  - Tobacco use screening not performed for medical reason.

Note: Tobacco use screening refusals cannot be document in the EHR so the exception for medical reason will not ever be met.

  - Tobacco use cessation pharmacotherapy not ordered for medical reason.

3.14.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Health behavior assessment, or re-assessment (ie, health-focused clinical interview, behavioral observations, clinical decision making)" ("CPT Code (96156)")
- code "Health behavior intervention, individual, face-to-face; initial 30 minutes" ("CPT Code (96158)")
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Limited Life Expectancy" (2.16.840.1.113883.3.526.3.1259)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "Occupational Therapy Evaluation" (2.16.840.1.113883.3.526.3.1011)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)

- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Ophthalmological Services" (2.16.840.1.113883.3.526.3.1285)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Physical Therapy Evaluation" (2.16.840.1.113883.3.526.3.1022)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services - Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services - Other" (2.16.840.1.113883.3.464.1003.101.12.1030)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Psych Visit - Diagnostic Evaluation" (2.16.840.1.113883.3.526.3.1492)
- valueset "Psych Visit - Psychotherapy" (2.16.840.1.113883.3.526.3.1496)
- valueset "Psychoanalysis" (2.16.840.1.113883.3.526.3.1141)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Speech and Hearing Evaluation" (2.16.840.1.113883.3.526.3.1530)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Tobacco Non-User" (2.16.840.1.113883.3.526.3.1189)
- valueset "Tobacco Use Cessation Counseling" (2.16.840.1.113883.3.526.3.509)
- valueset "Tobacco Use Cessation Pharmacotherapy" (2.16.840.1.113883.3.526.3.1190)
- valueset "Tobacco Use Screening" (2.16.840.1.113883.3.526.3.1278)
- valueset "Tobacco User" (2.16.840.1.113883.3.526.3.1170)

3.14.4 Data Criteria (QDM Data Elements)

- "Assessment, Not Performed: Tobacco Use Screening" using "Tobacco Use Screening (2.16.840.1.113883.3.526.3.1278)"
- "Assessment, Performed: Tobacco Use Screening" using "Tobacco Use Screening (2.16.840.1.113883.3.526.3.1278)"
- "Diagnosis: Limited Life Expectancy" using "Limited Life Expectancy (2.16.840.1.113883.3.526.3.1259)"

- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Health behavior assessment, or re-assessment (ie, health-focused clinical interview, behavioral observations, clinical decision making)" using "Health behavior assessment, or re-assessment (ie, health-focused clinical interview, behavioral observations, clinical decision making) (CPT Code 96156)"
- "Encounter, Performed: Health behavior intervention, individual, face-to-face; initial 30 minutes" using "Health behavior intervention, individual, face-to-face; initial 30 minutes (CPT Code 96158)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Occupational Therapy Evaluation" using "Occupational Therapy Evaluation (2.16.840.1.113883.3.526.3.1011)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Ophthalmological Services" using "Ophthalmological Services (2.16.840.1.113883.3.526.3.1285)"
- "Encounter, Performed: Physical Therapy Evaluation" using "Physical Therapy Evaluation (2.16.840.1.113883.3.526.3.1022)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services - Group Counseling" using "Preventive Care Services - Group Counseling (2.16.840.1.113883.3.464.1003.101.12.1027)"
- "Encounter, Performed: Preventive Care Services - Other" using "Preventive Care Services - Other (2.16.840.1.113883.3.464.1003.101.12.1030)"
- "Encounter, Performed: Preventive Care Services-Individual Counseling" using "Preventive Care Services-Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Psych Visit - Diagnostic Evaluation" using "Psych Visit - Diagnostic Evaluation (2.16.840.1.113883.3.526.3.1492)"

- "Encounter, Performed: Psych Visit - Psychotherapy" using "Psych Visit - Psychotherapy (2.16.840.1.113883.3.526.3.1496)"
- "Encounter, Performed: Psychoanalysis" using "Psychoanalysis (2.16.840.1.113883.3.526.3.1141)"
- "Encounter, Performed: Speech and Hearing Evaluation" using "Speech and Hearing Evaluation (2.16.840.1.113883.3.526.3.1530)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Not Performed: Tobacco Use Cessation Counseling" using "Tobacco Use Cessation Counseling (2.16.840.1.113883.3.526.3.509)"
- "Intervention, Performed: Tobacco Use Cessation Counseling" using "Tobacco Use Cessation Counseling (2.16.840.1.113883.3.526.3.509)"
- "Medication, Active: Tobacco Use Cessation Pharmacotherapy" using "Tobacco Use Cessation Pharmacotherapy (2.16.840.1.113883.3.526.3.1190)"
- "Medication, Not Ordered: Tobacco Use Cessation Pharmacotherapy" using "Tobacco Use Cessation Pharmacotherapy (2.16.840.1.113883.3.526.3.1190)"
- "Medication, Order: Tobacco Use Cessation Pharmacotherapy" using "Tobacco Use Cessation Pharmacotherapy (2.16.840.1.113883.3.526.3.1190)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.15 CMS139v10 Falls: Screening for Future Fall Risk

3.15.1 Detail

Description	Percentage of patients 65 years of age and older who were screened for future fall risk during the measurement period.

Rationale	As the leading cause of both fatal and nonfatal injuries for older adults, falls are one of the most common and significant health issues facing people aged 65 years or older (Schneider, Shubert and Harmon, 2010). Moreover, the rate of falls increases with age (Dykes et al., 2010). Older adults are five times more likely to be hospitalized for fall-related injuries than any other cause-related injury. It is estimated that one in every three adults over 65 will fall each year (Centers for Disease Control and Prevention 2015). In those over age 80, the rate of falls increases to fifty percent (Doherty et al., 2009). Falls are also associated with substantial cost and resource use, approaching $30,000 per fall hospitalization Woolcott et al., 2011). Identifying at-risk patients is the most important part of management, as applying preventive measures in this vulnerable population can have a profound effect on public health (al-Aama, 2011). Family physicians have a pivotal role in screening older patients for risk of falls and applying preventive strategies for patients at risk (al-Aama, 2011).
Clinical Recommendation Statement	All older persons who are under the care of a heath professional (or their caregivers) should be asked at least once a year about falls. (AGS/BGS/AAOS 2010) Older persons who present for medical attention because of a fall, report recurrent falls in the past year, or demonstrate abnormalities of gait and/or balance should have a fall evaluation performed. This evaluation should be performed by a clinician with appropriate skills and experience, which may necessitate referral to a specialist (eg, geriatrician). (AGS/BGS/AAOS 2010)
Definition	Screening for Future Fall Risk: Assessment of whether an individual has experienced a fall or problems with gait or balance. A specific screening tool is not required for this measure, however potential screening tools include the Morse Fall Scale and the timed Get-Up-And-Go test. Fall: A sudden, unintentional change in position causing an individual to land at a lower level, on an object, the floor, or the ground, other than as a consequence of sudden onset of paralysis, epileptic seizure, or overwhelming external force.
Guidance	None
Initial Population	Patients aged 65 years and older with a visit during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period.
Numerator	Patients who were screened for future fall risk at least once within the measurement period
Numerator Exclusions	Not Applicable
Denominator Exceptions	None

Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.15.2 Data Entry

Description	Percentage of patients 65 years of age and older who were screened for future fall risk during the measurement period.

Visit patient age 65 or older at start of measurement period.

Many qualified visits:

- Annual Wellness Visit (Value Set 2.16.840.1.113883.3.526.3.1240).
- Audiology Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1066).
- Care Services in Long-Term Residential Facility (Value Set 2.16.840.1.113883.3.464.1003.101.12.1014).
- Discharge Services - Nursing Facility (Value Set 2.16.840.1.113883.3.464.1003.101.12.1013).
- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Home healthcare (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Nursing Facility Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1012).
- Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Ophthalmological Services (Value Set 2.16.840.1.113883.3.526.3.1285).
- Preventive Care Services (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, ….1025).
- Preventive Care Services-Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026).

See Appendix A for information on using Value Sets.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

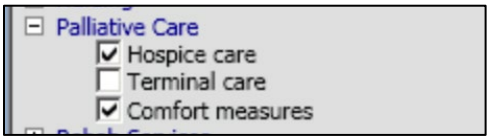


Figure 3-30: Palliative Care list

Exclude patients not ambulatory
(Value Set: 2.16.840.1.113883.3.464.1003.118.12.1009).

Fall risk screen (Exam - fall risk) and result
(Value Set: 2.16.840.1.113883.3.464.1003.118.12.1028).

3.15.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Audiology Visit" (2.16.840.1.113883.3.464.1003.101.12.1066)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Discharge Services - Nursing Facility" (2.16.840.1.113883.3.464.1003.101.12.1013)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Falls Screening" (2.16.840.1.113883.3.464.1003.118.12.1028)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Ophthalmological Services" (2.16.840.1.113883.3.526.3.1285)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)

- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.15.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Falls Screening" using "Falls Screening (2.16.840.1.113883.3.464.1003.118.12.1028)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Audiology Visit" using "Audiology Visit (2.16.840.1.113883.3.464.1003.101.12.1066)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Discharge Services - Nursing Facility" using "Discharge Services - Nursing Facility (2.16.840.1.113883.3.464.1003.101.12.1013)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Ophthalmological Services" using "Ophthalmological Services (2.16.840.1.113883.3.526.3.1285)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Individual Counseling" using "Preventive Care Services-Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"

- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.16 CMS144v10 Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

3.16.1 Detail

Description	Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge.
Rate Aggregation	This measure is intended to have one reporting rate, which aggregates the following populations into a single performance rate for reporting purposes: – Population 1: Patients who were prescribed beta-blocker therapy within a 12-month period when seen in the outpatient setting – Population 2: Patients who were prescribed beta-blocker therapy at each hospital discharge For the purposes of this measure, a single performance rate can be calculated as follows: Performance Rate = (Numerator 1 + Numerator 2)/ [(Denominator 1 - Denominator Exceptions 1) + (Denominator 2 - Denominator Exceptions 2)]

Rationale	Beta-blockers are recommended for all patients with stable heart failure and left ventricular systolic dysfunction, unless contraindicated. Treatment should be initiated as soon as a patient is diagnosed with left ventricular systolic dysfunction and does not have low blood pressure, fluid overload, or recent treatment with an intravenous positive inotropic agent. Beta-blockers have been shown to lessen the symptoms of heart failure, improve the clinical status of patients, reduce future clinical deterioration, and decrease the risk of mortality and the combined risk of mortality and hospitalization.

Clinical Recommendation Statement	Use of 1 of the 3 beta blockers proven to reduce mortality (e.g., bisoprolol, carvedilol, and sustained-release metoprolol succinate) is recommended for all patients with current or prior symptoms of HFrEF [heart failure with reduced ejection fraction], unless contraindicated, to reduce morbidity and mortality (Class I, Level of Evidence: A) (ACCF/AHA, 2013). Treatment with a beta blocker should be initiated at very low doses [see excerpt from guideline table below] followed by gradual increments in dose if lower doses have been well tolerated... Clinicians should make every effort to achieve the target doses of the beta blockers shown to be effective in major clinical trials. Even if symptoms do not improve, long-term treatment should be maintained to reduce the risk of major clinical events. Abrupt withdrawal of treatment with a beta blocker can lead to clinical deterioration and should be avoided (ACCF/AHA, 2013). Drugs Commonly Used for Stage C HFrEF (abbreviated to align with focus of measure to include only Beta-blocker therapy) Drug Initial Daily Dose(s) Maximum Dose(s) Mean Doses Achieved in Clinical Trials Beta Blockers Bisoprolol1.25 mg once10 mg once 8.6 mg/d Carvedilol3.125 mg twice 50 mg twice 37 mg/d Carvedilol CR 10 mg once 80 mg once N/A Metoprolol succinate 12.5 to 25 mg once 200 mg once 159 mg/d extended release (metoprolol CR/XL) For the hospitalized patient: In patients with HFrEF experiencing a symptomatic exacerbation of HF requiring hospitalization during chronic maintenance treatment with GDMT [guideline-directed medical therapy; GDMT represents optimal medical therapy as defined by ACCF/AHA guideline-recommended therapies (primarily Class I)], it is recommended that GDMT be continued in the absence of hemodynamic instability or contraindications (Class I, Level of Evidence: B) (ACCF/AHA, 2013). Initiation of beta-blocker therapy is recommended after optimization of volume status and successful discontinuation of intravenous diuretics, vasodilators, and inotropic agents. Beta-blocker therapy should be initiated at a low dose and only in stable patients. Caution should be used when initiating beta blockers in patients who have required inotropes during their hospital course (Class I, Level of Evidence: B) (ACCF/AHA, 2013).

Definition	Prescribed-Outpatient setting: prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list. Prescribed-Inpatient setting: prescription given to the patient for beta-blocker therapy at discharge OR beta-blocker therapy to be continued after discharge as documented in the discharge medication list. LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction
Guidance	This eCQM is to be reported as patient-based or episode-based, depending on the clinical setting. To satisfy this measure, it must be reported for all heart failure patients at least once during the measurement period if seen in the outpatient setting. If the patient has an eligible inpatient discharge during the measurement period, as defined in the measure logic, it is expected to be reported at each hospital discharge. A range value should satisfy the logic requirement for 'Ejection Fraction' as long as the ranged observation value clearly meets the less than 40% threshold noted in the denominator logic. A range that is inclusive of or greater than 40% would not meet the measure requirement. Beta-blocker therapy: -For patients with prior LVEF < 40%, beta-blocker therapy should include bisoprolol, carvedilol, or sustained release metoprolol succinate. The requirement of two or more visits used in Population Criteria 1 is to establish that the eligible professional or eligible clinician has an existing relationship with the patient.
Initial Population	All patients aged 18 years and older with a diagnosis of heart failure.
Denominator	Equals Initial Population with a current or prior LVEF < 40%.
Denominator Exclusions	None.
Numerator	Patients who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., low blood pressure, fluid overload, asthma, patients recently treated with an intravenous positive inotropic agent, allergy, intolerance, other medical reasons). Documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons). Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the healthcare system).
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.16.2 Data Entry

Description	Percentage of patients aged 18 years and older with a diagnosis of HF with a current or prior LVEF < 40 % who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge.

Two rates looking for beta-blocker use in OPD (w/in 12 months) or at hospital discharge for patients with heart failure and low LVEF.

Multiple encounter codes accepted:

- Care Services in Long-Term Residential Facility (Value Set 2.16.840.1.113883.3.464.1003.101.12.1014)
- Discharge Services - Hospital Inpatient (Value Set 2.16.840.1.113883.3.464.1003.101.12.1007)
- Home Healthcare Services (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016)
- Nursing Facility Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1012)
- Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001)
- Outpatient Consultation (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1008)

See Appendix A for information on using Value Sets

Denominator 1 (outpatient):

- Patient, age 18 or older at start of measurement period, with at least 2 visits during measurement period, diagnosis “heart failure” on IPL.
- (Value Set: 2.16.840.1.113883.3.526.3.376) with moderate to severe LVSD (<40% ejection fraction) (Value Set: 2.16.840.1.113883.3.526.3.1090).
- Exceptions:
  - Beta blocker not ordered for medical reason (Value Set: 2.16.840.1.113883.3.526.3.1007).
  - patient reason (Value Set: 2.16.840.1.113883.3.526.3.1008).
  - or system reason (Value Set: 2.16.840.1.113883.3.526.3.1009) --
  - Arrhythmia, hypotension, asthma, bradycardia diagnosis in IPL at time of visit, allergy to beta blocker or intolerance to beta blocker

Denominator exceptions:

- Allergy/intolerance to beta blocker therapy ingredient (Value Set: 2.16.840.1.113883.3.526.3.1493)
- AV block without pacer (Value Set: 2.16.840.1.113883.3.526.3.367)

Numerator 1: Active order or prescription for Beta blocker medication

Denominator 2 (Inpatient): Patient 18+ with diagnosis of Heart Failure at time of discharge and low LVSD (<40%)

Numerator 2: Order or active medication order for Beta Blocker therapy as Discharge Medication

Denominator exceptions:

- Bradycardia (<50) during and before hospitalization
- Medication not ordered for medical, patient, system reasons
- Arrhythmia, hypotension, asthma, bradycardia
- Allergy / intolerance to Beta Blocker therapy
- Allergy/intolerance to beta blocker therapy ingredient
- AV block without pacer

3.16.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Left ventricular systolic dysfunction (disorder)" ("SNOMEDCT Code (134401001)")
- code "Substance with beta adrenergic receptor antagonist mechanism of action (substance)" ("SNOMEDCT Code (373254001)")
- valueset "Allergy to Beta Blocker Therapy" (2.16.840.1.113883.3.526.3.1177)
- valueset "Arrhythmia" (2.16.840.1.113883.3.526.3.366)
- valueset "Asthma" (2.16.840.1.113883.3.526.3.362)
- valueset "Atrioventricular Block" (2.16.840.1.113883.3.526.3.367)
- valueset "Beta Blocker Therapy for LVSD" (2.16.840.1.113883.3.526.3.1184)
- valueset "Beta Blocker Therapy Ingredient" (2.16.840.1.113883.3.526.3.1493)
- valueset "Bradycardia" (2.16.840.1.113883.3.526.3.412)
- valueset "Cardiac Pacer" (2.16.840.1.113883.3.526.3.1193)
- valueset "Cardiac Pacer in Situ" (2.16.840.1.113883.3.526.3.368)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Discharge Services - Hospital Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1007)
- valueset "Ejection Fraction" (2.16.840.1.113883.3.526.3.1134)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)

- valueset "Heart Failure" (2.16.840.1.113883.3.526.3.376)
- valueset "Heart Rate" (2.16.840.1.113883.3.526.3.1176)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hypotension" (2.16.840.1.113883.3.526.3.370)
- valueset "Intolerance to Beta Blocker Therapy" (2.16.840.1.113883.3.526.3.1178)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "Moderate or Severe" (2.16.840.1.113883.3.526.3.1092)
- valueset "Moderate or Severe LVSD" (2.16.840.1.113883.3.526.3.1090)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Patient Provider Interaction" (2.16.840.1.113883.3.526.3.1012)
- valueset "Patient Reason" (2.16.840.1.113883.3.526.3.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "System Reason" (2.16.840.1.113883.3.526.3.1009)

3.16.4 Data Criteria (QDM Data Elements)

- "Allergy/Intolerance: Beta Blocker Therapy Ingredient" using "Beta Blocker Therapy Ingredient (2.16.840.1.113883.3.526.3.1493)"
- "Allergy/Intolerance: Substance with beta adrenergic receptor antagonist mechanism of action (substance)" using "Substance with beta adrenergic receptor antagonist mechanism of action (substance) (SNOMEDCT Code 373254001)"
- "Device, Applied: Cardiac Pacer" using "Cardiac Pacer (2.16.840.1.113883.3.526.3.1193)"
- "Diagnosis: Allergy to Beta Blocker Therapy" using "Allergy to Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1177)"
- "Diagnosis: Arrhythmia" using "Arrhythmia (2.16.840.1.113883.3.526.3.366)"
- "Diagnosis: Asthma" using "Asthma (2.16.840.1.113883.3.526.3.362)"
- "Diagnosis: Atrioventricular Block" using "Atrioventricular Block (2.16.840.1.113883.3.526.3.367)"
- "Diagnosis: Bradycardia" using "Bradycardia (2.16.840.1.113883.3.526.3.412)"

- "Diagnosis: Cardiac Pacer in Situ" using "Cardiac Pacer in Situ (2.16.840.1.113883.3.526.3.368)"
- "Diagnosis: Heart Failure" using "Heart Failure (2.16.840.1.113883.3.526.3.376)"
- "Diagnosis: Hypotension" using "Hypotension (2.16.840.1.113883.3.526.3.370)"
- "Diagnosis: Intolerance to Beta Blocker Therapy" using "Intolerance to Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1178)"
- "Diagnosis: Left ventricular systolic dysfunction (disorder)" using "Left ventricular systolic dysfunction (disorder) (SNOMEDCT Code 134401001)"
- "Diagnosis: Moderate or Severe LVSD" using "Moderate or Severe LVSD (2.16.840.1.113883.3.526.3.1090)"
- "Diagnostic Study, Performed: Ejection Fraction" using "Ejection Fraction (2.16.840.1.113883.3.526.3.1134)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Discharge Services - Hospital Inpatient" using "Discharge Services - Hospital Inpatient (2.16.840.1.113883.3.464.1003.101.12.1007)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Patient Provider Interaction" using "Patient Provider Interaction (2.16.840.1.113883.3.526.3.1012)"
- "Medication, Active: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Medication, Discharge: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Medication, Not Discharged: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Medication, Not Ordered: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"

- "Medication, Order: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Performed: Heart Rate" using "Heart Rate (2.16.840.1.113883.3.526.3.1176)"

3.17 CMS145v10 Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF less than 40%)

3.17.1 Detail

Description	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF < 40% who were prescribed beta-blocker therapy
Rationale	For patients with coronary artery disease (CAD), beta-blockers are recommended for 3 years after myocardial infarction or acute coronary syndrome. Beta-blockers, particularly carvedilol, metoprolol succinate, or bisoprolol which have been shown to reduce risk of death, are recommended indefinitely for patients with CAD and LV systolic dysfunction. These agents have proven efficacy in reducing angina onset and improving the ischemic threshold during exercise. In patients who have suffered an MI, beta-blockers significantly reduce deaths and recurrent MIs (ACCF/AHA/ACP/AATS/PCNA/SCAI/STS, 2012). Nonadherence to cardioprotective medications is prevalent among outpatients with CAD and can be associated with a broad range of adverse outcomes, including all-cause and cardiovascular mortality, cardiovascular hospitalizations, and the need for revascularization procedures (ACC/AHA, 2002). This measure is intended to promote beta-blocker usage in select patients with CAD.

Description	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF < 40% who were prescribed beta-blocker therapy
Clinical Recommendation Statement	Beta-blocker therapy should be started and continued for 3 years in all patients with normal LV function after MI or ACS. (Class I, Level of Evidence: B) (ACCF/AHA/ACP/AATS/PCNA/SCAI/STS, 2012) Beta-blocker therapy should be used in all patients with LV systolic dysfunction (EF <= 40%) with heart failure or prior MI, unless contraindicated. (Use should be limited to carvedilol, metoprolol succinate, or bisoprolol, which have been shown to reduce risk of death.) (Class I, Level of Evidence: A) (ACCF/AHA/ACP/AATS/PCNA/SCAI/STS, 2012)
Definition	Prescribed may include prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list. Prior Myocardial Infarction (MI) for denominator 2 is limited to those occurring within the past 3 years. LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction (LVSD). The LVSD may be determined by quantitative or qualitative assessment, which may be current or historical. Examples of a quantitative or qualitative assessment may include an echocardiogram: 1) that provides a numerical value of LVSD or 2) that uses descriptive terms such as moderately or severely depressed left ventricular systolic function. Any current or prior ejection fraction study documenting LVSD can be used to identify patients.
Guidance	Beta-blocker therapy: - For patients with prior MI, beta-blocker therapy includes any agent within the beta-blocker drug class. As of 2015, no recommendations or evidence are cited in current stable ischemic heart disease guidelines for preferential use of specific agents - For patients with prior LVEF <40%, beta-blocker therapy includes the following: bisoprolol, carvedilol, or sustained release metoprolol succinate The requirement of two or more visits is to establish that the eligible professional or eligible clinician has an existing relationship with the patient. A range value should satisfy the logic requirement for 'Ejection Fraction' as long as the ranged observation value clearly meets the less than 40% threshold noted in the denominator logic. A range that is inclusive of or greater than 40% would not meet the measure requirement. If a patient has had a myocardial infarction (MI) within the past 3 years and a current or prior LVEF < 40% (or moderate or severe LVSD), the patient should only be counted in Population Criteria 1.
Initial Population	All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period
Denominator	Equals Initial Population who also have prior (within the past 3 years) MI or a current or prior LVEF <40%.

Description	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF < 40% who were prescribed beta-blocker therapy
Denominator Exclusions	None
Numerator	Patients who were prescribed beta-blocker therapy.
Numerator Exclusions	Not Applicable
Denominator Exceptions	Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., allergy, intolerance, other medical reasons). Documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons). Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex

3.17.2 Data Entry

Description	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF < 40% who were prescribed beta-blocker therapy
Initial Population	• All patients aged 18 years and older with a diagnosis of coronary artery disease (CAD) and seen within a 12-month period • At least two qualify encounters and at least one with CAD diagnosis and physical exam performed during measurement period Qualifying Encounter Valuesets: • Home Healthcare Services • Nursing Family Visit • Home Healthcare Services • Nursing Facility Visit • Office Visit • Outpatient Consultation • Patient Provider Interaction CAD Diagnosis • IPL ICD10 and SNOMED Physical Exam Performed: • Heart Rate documented in vitals as PU (Pulse) in the EHR

Description	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF < 40% who were prescribed beta-blocker therapy
Denominator	Equal initial population who also have prior (within the past three years) MI or current or Prior LVEF <40% LVEF: • IPL SNOMED in EHR • Severity in IPL either Moderate or Severe Prior MI: • IPL ICD10 and SNOMED

Numerator	Has Beta Blocker Therapy for LVSD Ordered" or "Is Currently Taking Beta Blocker Therapy for LVSD"
	• Medication ordered via Discharged, Outpatient, and Outside Valuesets:
	  • Beta Blocker Therapy
	  • Beta Blocker Therapy for LVSD

Denominator Exceptions	IPL ICD10 and SNOMED • Has Arrhythmia with Qualifying CAD Encounter and Moderate or Severe LVSD • Has Asthma with Qualifying CAD Encounter and Moderate or Severe LVSD • Has Bradycardia with Qualifying CAD Encounter and Moderate or Severe LVSD • Has Hypotension with Qualifying CAD Encounter and Moderate or Severe LVSD • Has Atrioventricular Block with Qualifying CAD Encounter and Moderate or Severe LVSD without Cardiac Pacer Documented in Vitals PU (Pulse) the last two heart rates are used • Has Consecutive Heart Rates Less than 50 with Qualifying CAD Encounter and Moderate or Severe LVSD Documented in the Adverse Reaction/Allergy Tracking • Has Allergy or Intolerance to Beta Blocker Therapy Ingredient with Qualifying CAD Encounter and Moderate or Severe LVSD • Has Diagnosis of Allergy or Intolerance to Beta Blocker Therapy with Qualifying CAD Encounter and Moderate or Severe LVSD Documented in Personal Health, Refusals, and Medication refusal • Has Medical Patient or System Reason for Not Ordering Beta Blocker for LVSD For additional guidance on this new 2022 you can look to the following link: • https://ecqi.healthit.gov/sites/default/files/ecqm/measures/CMS145v10.html

3.17.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Left ventricular systolic dysfunction (disorder)" ("SNOMEDCT Code (134401001)")
- code "Substance with beta adrenergic receptor antagonist mechanism of action (substance)" ("SNOMEDCT Code (373254001)")
- valueset "Allergy to Beta Blocker Therapy" (2.16.840.1.113883.3.526.3.1177)
- valueset "Arrhythmia" (2.16.840.1.113883.3.526.3.366)
- valueset "Asthma" (2.16.840.1.113883.3.526.3.362)
- valueset "Atrioventricular Block" (2.16.840.1.113883.3.526.3.367)
- valueset "Beta Blocker Therapy" (2.16.840.1.113883.3.526.3.1174)
- valueset "Beta Blocker Therapy for LVSD" (2.16.840.1.113883.3.526.3.1184)
- valueset "Beta Blocker Therapy Ingredient" (2.16.840.1.113883.3.526.3.1493)
- valueset "Bradycardia" (2.16.840.1.113883.3.526.3.412)
- valueset "Cardiac Pacer" (2.16.840.1.113883.3.526.3.1193)
- valueset "Cardiac Pacer in Situ" (2.16.840.1.113883.3.526.3.368)
- valueset "Cardiac Surgery" (2.16.840.1.113883.3.526.3.371)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Coronary Artery Disease No MI" (2.16.840.1.113883.3.526.3.369)
- valueset "Ejection Fraction" (2.16.840.1.113883.3.526.3.1134)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Heart Rate" (2.16.840.1.113883.3.526.3.1176)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hypotension" (2.16.840.1.113883.3.526.3.370)
- valueset "Intolerance to Beta Blocker Therapy" (2.16.840.1.113883.3.526.3.1178)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "Moderate or Severe" (2.16.840.1.113883.3.526.3.1092)
- valueset "Moderate or Severe LVSD" (2.16.840.1.113883.3.526.3.1090)
- valueset "Myocardial Infarction" (2.16.840.1.113883.3.526.3.403)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)

- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Patient Provider Interaction" (2.16.840.1.113883.3.526.3.1012)
- valueset "Patient Reason" (2.16.840.1.113883.3.526.3.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "System Reason" (2.16.840.1.113883.3.526.3.1009)

3.17.4 Data Criteria (QDM Data Elements)

- "Allergy/Intolerance: Beta Blocker Therapy Ingredient" using "Beta Blocker Therapy Ingredient (2.16.840.1.113883.3.526.3.1493)"
- "Allergy/Intolerance: Substance with beta adrenergic receptor antagonist mechanism of action (substance)" using "Substance with beta adrenergic receptor antagonist mechanism of action (substance) (SNOMEDCT Code 373254001)"
- "Device, Applied: Cardiac Pacer" using "Cardiac Pacer (2.16.840.1.113883.3.526.3.1193)"
- "Diagnosis: Allergy to Beta Blocker Therapy" using "Allergy to Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1177)"
- "Diagnosis: Arrhythmia" using "Arrhythmia (2.16.840.1.113883.3.526.3.366)"
- "Diagnosis: Asthma" using "Asthma (2.16.840.1.113883.3.526.3.362)"
- "Diagnosis: Atrioventricular Block" using "Atrioventricular Block (2.16.840.1.113883.3.526.3.367)"
- "Diagnosis: Bradycardia" using "Bradycardia (2.16.840.1.113883.3.526.3.412)"
- "Diagnosis: Cardiac Pacer in Situ" using "Cardiac Pacer in Situ (2.16.840.1.113883.3.526.3.368)"
- "Diagnosis: Coronary Artery Disease No MI" using "Coronary Artery Disease No MI (2.16.840.1.113883.3.526.3.369)"
- "Diagnosis: Hypotension" using "Hypotension (2.16.840.1.113883.3.526.3.370)"
- "Diagnosis: Intolerance to Beta Blocker Therapy" using "Intolerance to Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1178)"
- "Diagnosis: Left ventricular systolic dysfunction (disorder)" using "Left ventricular systolic dysfunction (disorder) (SNOMEDCT Code 134401001)"

- "Diagnosis: Moderate or Severe LVSD" using "Moderate or Severe LVSD (2.16.840.1.113883.3.526.3.1090)"
- "Diagnosis: Myocardial Infarction" using "Myocardial Infarction (2.16.840.1.113883.3.526.3.403)"
- "Diagnostic Study, Performed: Ejection Fraction" using "Ejection Fraction (2.16.840.1.113883.3.526.3.1134)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Patient Provider Interaction" using "Patient Provider Interaction (2.16.840.1.113883.3.526.3.1012)"
- "Medication, Active: Beta Blocker Therapy" using "Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1174)"
- "Medication, Active: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Medication, Not Ordered: Beta Blocker Therapy" using "Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1174)"
- "Medication, Not Ordered: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Medication, Order: Beta Blocker Therapy" using "Beta Blocker Therapy (2.16.840.1.113883.3.526.3.1174)"
- "Medication, Order: Beta Blocker Therapy for LVSD" using "Beta Blocker Therapy for LVSD (2.16.840.1.113883.3.526.3.1184)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"

- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Performed: Heart Rate" using "Heart Rate (2.16.840.1.113883.3.526.3.1176)"
- "Procedure, Performed: Cardiac Surgery" using "Cardiac Surgery (2.16.840.1.113883.3.526.3.371)"

3.18 CMS147v11 Preventive Care and Screening: Influenza Immunization

3.18.1 Detail

Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization

Description	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization
Rationale	Influenza vaccination is the most effective protection against influenza virus infection (Centers for Disease Control and Prevention [CDC], 2019). Influenza may lead to serious complications including hospitalization or death (CDC, 2019). Influenza vaccine is recommended for all persons aged >=6 months who do not have contraindications to vaccination. However, data indicate that less than half of all eligible individuals receive an influenza vaccination (CDC, 2019). This measure promotes annual influenza vaccination for all persons aged >= 6 months.
Clinical Recommendation Statement	Routine annual influenza vaccination is recommended for all persons aged >= 6 months who do not have contraindications. Optimally, vaccination should occur before onset of influenza activity in the community. Although vaccination by the end of October is recommended, vaccine administered in December or later, even if influenza activity has already begun, is likely to be beneficial in the majority of influenza seasons (CDC/Advisory Committee on Immunization Practices [ACIP], 2020).
Definition	Previous Receipt – receipt of the current season's influenza immunization from another provider OR from same provider prior to the visit to which the measure is applied (typically, prior vaccination would include influenza vaccine given since August 1st)

Guidance	The timeframe for the visit during the "Encounter, Performed": "Encounter-Influenza" or "Procedure, Performed": "Peritoneal Dialysis" or "Procedure, Performed": "Hemodialysis" in the Population Criteria-Denominator, refers to the influenza season defined by the measure: October through March (October 1 for the year prior to the start of the reporting period through March 31 during the reporting period). The "Encounter-Influenza" Grouping OID detailed in the data criteria section below is comprised of several individual OIDs of different encounter types. The individual OIDs are included in the value set and should be reviewed to determine that an applicable visit occurred during the timeframe for "Encounter, Performed": "Encounter-Influenza" as specified in the denominator. To enable reporting of this measure at the close of the reporting period, this measure will only assess the influenza season that ends in March of the reporting period. The subsequent influenza season (ending March of the following year) will be measured and reported in the following year. Due to the changing stance of the CDC/ACIP recommendations regarding the live attenuated influenza vaccine (LAIV) for a particular flu season, this measure will not include the administration of this specific formulation of the flu vaccination. Given the variance of the timeframes for the annual update cycles, program implementation, and publication of revised recommendations from the CDC/ACIP, it has been determined that the coding for this measure will specifically exclude this formulation, so as not to inappropriately include this form of the vaccine for flu seasons when CDC/ACIP explicitly advise against it. However, it is recommended that all eligible professionals or eligible clinicians to review the guidelines for each flu season to determine appropriateness of the LAIV and other formulations of the flu vaccine. Should the LAIV be recommended for administration for a particular flu season, eligible professional or clinician may consider one of the following options: 1) satisfy the numerator by reporting either previous receipt or using the CVX 88 for unspecified formulation, 2) report a denominator exception, either as a patient reason (e.g., for patient preference) or a system reason (e.g., the institution only carries LAIV). Patient self-report for procedures as well as immunizations should be recorded in "Procedure, Performed" template or "Immunization, Administered" template in QRDA-1.
Initial Population	All patients aged 6 months and older seen for a visit during the measurement period
Denominator	Equals Initial Population and seen for a visit between October 1 and March 31
Denominator Exclusions	None
Numerator	Patients who received an influenza immunization OR who reported previous receipt of an influenza immunization

Numerator Exclusions	Not Applicable
Denominator Exceptions	Documentation of medical reason(s) for not receiving influenza immunization (e.g., patient allergy, other medical reasons). Documentation of patient reason(s) for not receiving influenza immunization (e.g., patient declined, other patient reasons). Documentation of system reason(s) for not receiving influenza immunization (e.g., vaccine not available, other system reasons).
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex

3.18.2 Data Entry

Description	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization

Multiple encounter codes accepted, Visit Date falls between October 1 and March 31. Note that this also included encounters for hemodialysis or peritoneal dialysis.

- "Office Visit"]
- "Outpatient Consultation"]
- "Care Services in Long-Term Residential Facility"]
- "Home Healthcare Services"]
- "Patient Provider Interaction"]
- "Preventive Care Services, Initial Office Visit, 0 to 17"]
- "Preventive Care Services-Initial Office Visit, 18 and Up"]
- “Preventive Care Services-Individual Counseling"]
- "Preventive Care Services - Group Counseling"]
- "Preventive Care Services - Other"]
- "Discharge Services - Nursing Facility"]
- "Nursing Facility Visit"]
- "Annual Wellness Visit"]
- "Preventive Care, Established Office Visit, 0 to 17"]
- "Preventive Care Services - Established Office Visit, 18 and Up"]
- "Online Assessments"]
- "Telephone Visits"]

Exceptions:

– Documentation of medical reason(s) for not receiving influenza immunization (e.g., patient allergy, other medical reasons). Document as contraindication on IMM tab as below:

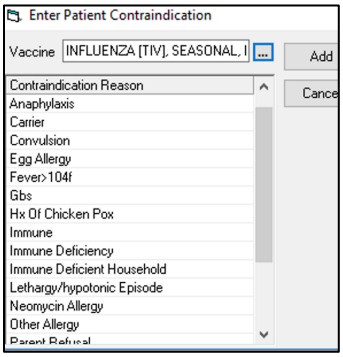


Figure 3-31: Enter Patient Contraindication

– Documentation of patient reason(s) for not receiving influenza immunization (e.g., patient declined, other patient reasons). Document as refusal in Personal History (typically on Triage tab)

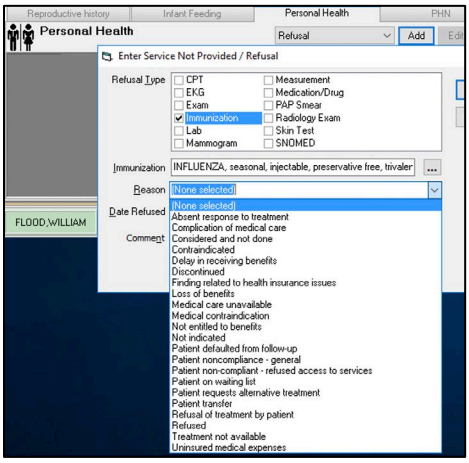


Figure 3-32: Refusal in Personal History

– Documentation of system reason(s) for not receiving influenza immunization (e.g., vaccine not available, other system reasons). Document on IMM tab as immunization “Not Done” and select reason as below:

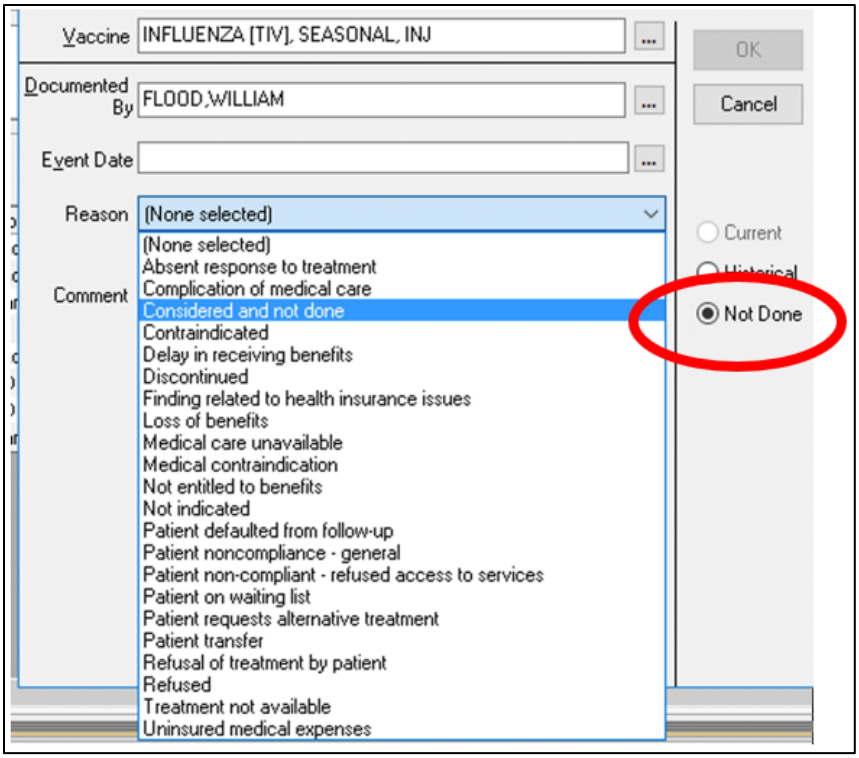


Figure 3-33: Documented as Not Done

– Document Influenza Immunization at visit OR Document Historical Influenza Immunization during the current influenza season.

3.18.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." ("CPT Code (99211)")
- valueset "Allergy to Eggs" (2.16.840.1.113883.3.526.3.1253)
- valueset "Allergy to Influenza Vaccine" (2.16.840.1.113883.3.526.3.1256)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Discharge Services - Nursing Facility" (2.16.840.1.113883.3.464.1003.101.12.1013)
- valueset "Egg Substance" (2.16.840.1.113883.3.526.3.1537)
- valueset "Encounter-Influenza" (2.16.840.1.113883.3.526.3.1252)

- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Hemodialysis" (2.16.840.1.113883.3.526.3.1083)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Influenza Vaccination" (2.16.840.1.113883.3.526.3.402)
- valueset "Influenza Vaccination Declined" (2.16.840.1.113883.3.526.3.1255)
- valueset "Influenza Vaccine" (2.16.840.1.113883.3.526.3.1254)
- valueset "Intolerance to Influenza Vaccine" (2.16.840.1.113883.3.526.3.1257)
- valueset "Medical Reason" (2.16.840.1.113883.3.526.3.1007)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Patient Provider Interaction" (2.16.840.1.113883.3.526.3.1012)
- valueset "Patient Reason" (2.16.840.1.113883.3.526.3.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Peritoneal Dialysis" (2.16.840.1.113883.3.526.3.1084)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services - Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services - Other" (2.16.840.1.113883.3.464.1003.101.12.1030)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "System Reason" (2.16.840.1.113883.3.526.3.1009)

- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.18.4 Data Criteria (QDM Data Elements)

- "Allergy/Intolerance: Egg Substance" using "Egg Substance (2.16.840.1.113883.3.526.3.1537)"
- "Allergy/Intolerance: Influenza Vaccination" using "Influenza Vaccination (2.16.840.1.113883.3.526.3.402)"
- "Allergy/Intolerance: Influenza Vaccine" using "Influenza Vaccine (2.16.840.1.113883.3.526.3.1254)"
- "Diagnosis: Allergy to Eggs" using "Allergy to Eggs (2.16.840.1.113883.3.526.3.1253)"
- "Diagnosis: Allergy to Influenza Vaccine" using "Allergy to Influenza Vaccine (2.16.840.1.113883.3.526.3.1256)"
- "Diagnosis: Intolerance to Influenza Vaccine" using "Intolerance to Influenza Vaccine (2.16.840.1.113883.3.526.3.1257)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Discharge Services - Nursing Facility" using "Discharge Services - Nursing Facility (2.16.840.1.113883.3.464.1003.101.12.1013)"
- "Encounter, Performed: Encounter-Influenza" using "Encounter-Influenza (2.16.840.1.113883.3.526.3.1252)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." using "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal. (CPT Code 99211)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"

- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Patient Provider Interaction" using "Patient Provider Interaction (2.16.840.1.113883.3.526.3.1012)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services - Group Counseling" using "Preventive Care Services - Group Counseling (2.16.840.1.113883.3.464.1003.101.12.1027)"
- "Encounter, Performed: Preventive Care Services - Other" using "Preventive Care Services - Other (2.16.840.1.113883.3.464.1003.101.12.1030)"
- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Encounter, Performed: Preventive Care Services-Individual Counseling" using "Preventive Care Services-Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Immunization, Administered: Influenza Vaccine" using "Influenza Vaccine (2.16.840.1.113883.3.526.3.1254)"
- "Immunization, Not Administered: Influenza Vaccine" using "Influenza Vaccine (2.16.840.1.113883.3.526.3.1254)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"

- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Not Performed: Influenza Vaccination" using "Influenza Vaccination (2.16.840.1.113883.3.526.3.402)"
- "Procedure, Performed: Hemodialysis" using "Hemodialysis (2.16.840.1.113883.3.526.3.1083)"
- "Procedure, Performed: Influenza Vaccination" using "Influenza Vaccination (2.16.840.1.113883.3.526.3.402)"
- "Procedure, Performed: Peritoneal Dialysis" using "Peritoneal Dialysis (2.16.840.1.113883.3.526.3.1084)"

3.19 CMS154v10 Appropriate Treatment for Upper Respiratory Infection (URI)

3.19.1 Detail

Description	Percentage of episodes for patients 3 months of age and older with a diagnosis of upper respiratory infection (URI) that did not result in an antibiotic dispensing event.
Rationale	Most URI, also known as the common cold, are caused by viruses that require no antibiotic treatment. Too often, antibiotics are prescribed inappropriately, which can lead to antibiotic resistance (when antibiotics can no longer cure bacterial infections). In the United States, at least 2.8 million antibiotic-resistant illnesses and 35,000 deaths occur each year.
Clinical Recommendation Statement	American Family Physician (Fashner, Ericson, and Werner, Khilberg 2012) - Antibiotics should not be used for the treatment of cold symptoms in children or adults. (A) - Nonsteroidal anti-inflammatory drugs reduce pain secondary to upper respiratory tract infection in adults. (A) - Decongestants, antihistamine/decongestant combinations, and intranasal ipratropium (Atrovent) may improve cold symptoms in adults. (B)
Definition	None
Guidance	This is an episode of care measure that examines all eligible episodes for the patient during the measurement period. This eCQM is an episode-based measure. An episode is defined as each eligible encounter for patients aged 3 months of age and older with a diagnosis of upper respiratory infection during the measurement period. This version of the eCQM uses QDM version 5.5. Please refer to the eCQI resource center (https://ecqi.healthit.gov/qdm) for more information on the QDM.

Description	Percentage of episodes for patients 3 months of age and older with a diagnosis of upper respiratory infection (URI) that did not result in an antibiotic dispensing event.
Initial Population	Outpatient visits, telephone visits, online assessments (i.e. e-visit or virtual check-in), observation stays or emergency department visits with a diagnosis of URI during the measurement period among patients 3 months of age and older.
Denominator	Equals Initial Population
Denominator Exclusions	Exclude URI episodes when the patient had a comorbid condition during the 12 months prior to or on the episode date. Exclude URI episodes when the patient had an active prescription of antibiotics in the 30 days prior to the episode date, including the episode date up until the time of the encounter. Exclude URI episodes when the patient had competing diagnosis on or three days after the episode date.Exclude URI episodes when the patient had hospice care for any part of the measurement period.
Numerator	URI episodes without a prescription for antibiotic medication on or 3 days after the outpatient visit, telephone visit, online assessment, observation stay, or emergency department visit for an upper respiratory infection
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

3.19.2 Data Entry

Description	Percentage of episodes for patients 3 months of age and older with a diagnosis of upper respiratory infection (URI) that did not result in an antibiotic dispensing event.

Initial Population and Denominator

- Create visit for patients 3 months of age and older to meet initial population and denominator. Multiple encounters accepted:
  - Emergency Department Visit
  - Healthcare Services
  - Hospital Observation Care – Initial
  - Medical Disability Exam
  - Observation
  - Office Visit
  - Outpatient Consultation

- Preventive Care Services - Group Counseling
- Preventive Care Services-Individual Counseling
- Preventive Care Services, Initial Office Visit, 0 to 17
- Preventive Care, Established Office Visit, 0 to 17
- Preventive Care Services - Established Office Visit, 18 and Up
- Preventive Care Services-Initial Office Visit, 18 and Up
- Telephone Visits (Telephonic Visit Type)
- Online Assessments

Numerator

- Enter Upper Respiratory Infection diagnosis using the Problem List (see valueset below) and did not get a prescription for Antibiotic Medications for Pharyngitis (see valueset below) 3 days or less on or after the start of the visit will be included in numerator

Denominator Exclusion

- Patients that falls in the following excluded in the denominator:
  - Hospice is in Treatment/Regimen and occurred during during the measurement period
  - Documented diagnosis in Problem List that fall within the valueset for Comorbid Conditions for Respiratory Conditions with an Onset Date of Date of 12 months prior to or on the date of the visit
  - Documented diagnosis in Problem List that fall within the valueset for Competing Diagnosis for Respiratory Conditions with an Onset Date on or after the visit date
  - An active prescription of Antibiotic Medications for Pharyngitis prior to the day of the visit up to the date of the visit

For additional guidance for this new 2022 measure you can look to the following link:

- https://ecqi.healthit.gov/sites/default/files/ecqm/measures/CMS154v10.html

3.19.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")

- code "Observation care discharge day management (This code is to be utilized to report all services provided to a patient on discharge from outpatient hospital observation status if the discharge is on other than the initial date of observation status. To report services to a patient designated as observation status or inpatient status and discharged on the same date, use the codes for Observation or Inpatient Care Services [including Admission and Discharge Services, 99234-99236 as appropriate.])" ("CPT Code (99217)")
- valueset "Antibiotic Medications for Pharyngitis" (2.16.840.1.113883.3.464.1003.196.12.1001)
- valueset "Comorbid Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1025)
- valueset "Competing Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1017)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Hospital Observation Care - Initial" (2.16.840.1.113883.3.464.1003.101.12.1002)
- valueset "Medical Disability Exam" (2.16.840.1.113883.3.464.1003.101.12.1073)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services - Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services - Other" (2.16.840.1.113883.3.464.1003.101.12.1030)

- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Upper Respiratory Infection" (2.16.840.1.113883.3.464.1003.102.12.1022)

3.19.4 Data Criteria (QDM Data Elements)

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Observation care discharge day management (This code is to be utilized to report all services provided to a patient on discharge from outpatient hospital observation status if the discharge is on other than the initial date of observation status. To report services to a patient designated as observation status or inpatient status and discharged on the same date, use the codes for Observation or Inpatient Care Services [including Admission and Discharge Services, 99234-99236 as appropriate.])" ("CPT Code (99217)")
- valueset "Antibiotic Medications for Pharyngitis" (2.16.840.1.113883.3.464.1003.196.12.1001)
- valueset "Comorbid Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1025)
- valueset "Competing Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1017)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)

- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Hospital Observation Care - Initial" (2.16.840.1.113883.3.464.1003.101.12.1002)
- valueset "Medical Disability Exam" (2.16.840.1.113883.3.464.1003.101.12.1073)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services - Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services - Other" (2.16.840.1.113883.3.464.1003.101.12.1030)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Upper Respiratory Infection" (2.16.840.1.113883.3.464.1003.102.12.1022)

3.20 CMS155v10 Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents

3.20.1 Detail

Description	Percentage of patients 3-17 years of age who had an outpatient visit with a PCP or Obstetrician/Gynecologist (OB/GYN) and who had evidence of the following during the measurement period. Three rates are reported. Percentage of patients with height, weight, and BMI percentile documentation Percentage of patients with counseling for nutrition Percentage of patients with counseling for physical activity.
Stratification:	Report a total score, and each of the following strata: Stratum 1 - Patients age 3-11. Stratum 2 - Patients age 12-17.
Rationale	Over the last four decades, childhood obesity has more than tripled in children and adolescents 2 to 19 years of age (from a rate of approximately 5 percent to 18.5 percent) (Fryar, Carroll, & Ogden, 2014; Hales et al., 2017). Non-Hispanic black and Hispanic youth are more likely to be obese than their non-Hispanic white and non-Hispanic Asian counterparts. In 2015-2016, approximately 22 percent of non-Hispanic black and 26 percent of Hispanic youth were obese compared to approximately 14 percent of non-Hispanic white and 11 percent of non-Hispanic Asian youth (Hales et al., 2017). Childhood obesity has both immediate and long-term effects on health and well-being. Children who are obese have higher rates of physical health conditions, such as risk factors for cardiovascular disease (like high blood pressure and high cholesterol), type 2 diabetes, asthma, sleep apnea, and joint problems. There is also a correlation between childhood obesity and mental health conditions, such as anxiety and depression (Centers for Disease Control and Prevention, 2016). In addition, children who are obese are more likely to be obese as adults and are therefore at risk for adult health problems, such as heart disease, type 2 diabetes, and several types of cancer (Centers for Disease Control and Prevention, 2016). The direct medical costs associated with childhood obesity total about $19,000 per child, contributing to the $14 billion spent on care related to childhood obesity in the United States (Finkelstein, Graham, & Malhotra, 2014). Because obesity can become a lifelong health issue, it is important to screen for obesity in children and adolescents, and to provide interventions that promote weight loss (U.S. Preventive Services Task Force, 2017).

Clinical Recommendation Statement	U.S. Preventive Services Task Force (2017) - The task force recommends that clinicians screen for obesity in children and adolescents 6 years and older and offer or refer them to comprehensive, intensive behavioral interventions to promote improvements in weight status. (B recommendation) American Academy of Pediatrics – Bright Futures (Hagan, Shaw, & Duncan, 2017) - Plot and assess BMI percentiles routinely for early recognition of overweight and obesity. - Assess barriers to healthy eating and physical activity. - Provide anticipatory guidance for nutrition and physical activity.
Guidance	The visit must be performed by a PCP or OB/GYN. Because BMI norms for youth vary with age and sex, this measure evaluates whether BMI percentile, rather than an absolute BMI value, is assessed.
Initial Population	Patients 3-17 years of age with at least one outpatient visit with a PCP or an OB/GYN during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Patients who have a diagnosis of pregnancy during the measurement period. Exclude patients who are in hospice care for any part of the measurement period.
Numerator	Numerator 1: Patients who had a height, weight, and BMI percentile recorded during the measurement period. Numerator 2: Patients who had counseling for nutrition during the measurement period. Numerator 3: Patients who had counseling for physical activity during the measurement period.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.20.2 Data Entry

Description	Percentage of patients 3-17 years of age who had an outpatient visit with a PCP or OB/GYN and who had evidence of the following during the measurement period. Three rates are reported: • Percentage of patients with height, weight, and BMI percentile documentation. • Percentage of patients with counselling for nutrition. • Percentage of patients with counselling for physical activity.

Three rates are reported:

- Multiple encounter codes accepted:
  - Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
  - Preventive Care Services-Individual Counseling (Value Set 2.16.840.1.113883.3.464.1003.101.12.1026).
  - Preventive Care Services - Group Counseling (Value Set 2.16.840.1.113883.3.464.1003.101.12.1027).
  - Preventive Care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1024, ….1022).
  - Home Healthcare Services (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
  - Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Denominator (same for all three):
  - Visit or admission, child age 3-17 at start of measurement period.
  - Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

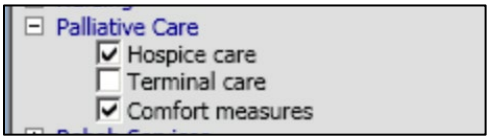


Figure 3-34: Palliative Care list

  - Exclude patients who are pregnant (Value Set: 2.16.840.1.113883.3.526.3.378).
- Numerator 1:
  - Height, weight, BMI all recorded during measurement period.
  - Stratification 1- age 3 to less than 11 at start of measurement period.
  - Stratification 2 – age 11 to less than 17 at start of measurement period.
- Numerator 2:

- Counseling for nutrition begins during measurement period (Value Set: 2.16.840.1.113883.3.464.1003.195.12.1003).
- TREG edit for POV (education for both diet and exercise).

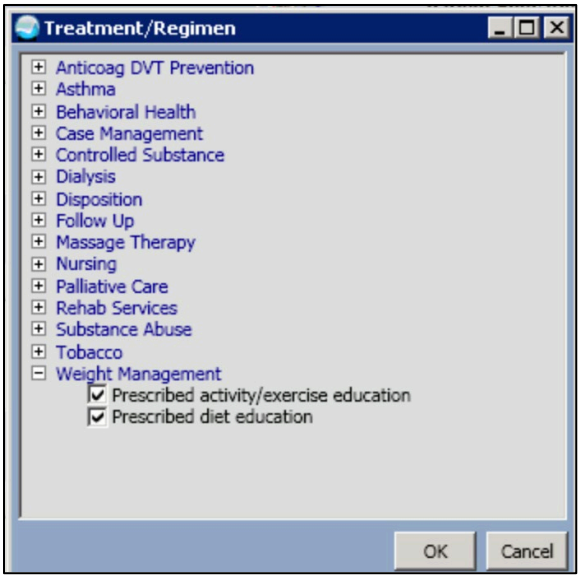


Figure 3-35: Treatment/Regimen dialog

- Stratification 1- age 3 to less than 11 at start of measurement period.
- Stratification 2 – age 11 to less than 17 at start of measurement period.

– Numerator 3:
  - Counseling for Physical Activity begins during measurement period (Value Set: 2.16.840.1.113883.3.464.1003.118.12.1035).
  - TREG as above.
  - Stratification 1- age 3 to less than 11 at start of measurement period.
  - Stratification 2 – age 11 to less than 17 at start of measurement period.

3.20.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- valueset "BMI percentile" (2.16.840.1.113883.3.464.1003.121.12.1012)
- valueset "Counseling for Nutrition" (2.16.840.1.113883.3.464.1003.195.12.1003)
- valueset "Counseling for Physical Activity" (2.16.840.1.113883.3.464.1003.118.12.1035)

- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Height" (2.16.840.1.113883.3.464.1003.121.12.1014)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pregnancy" (2.16.840.1.113883.3.526.3.378)
- valueset "Preventive Care Services - Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Weight" (2.16.840.1.113883.3.464.1003.121.12.1015)

3.20.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Pregnancy" using "Pregnancy (2.16.840.1.113883.3.526.3.378)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services - Group Counseling" using "Preventive Care Services - Group Counseling (2.16.840.1.113883.3.464.1003.101.12.1027)"

- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Encounter, Performed: Preventive Care Services-Individual Counseling" using "Preventive Care Services-Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026)"
- "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Counseling for Nutrition" using "Counseling for Nutrition (2.16.840.1.113883.3.464.1003.195.12.1003)"
- "Intervention, Performed: Counseling for Physical Activity" using "Counseling for Physical Activity (2.16.840.1.113883.3.464.1003.118.12.1035)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Performed: BMI percentile" using "BMI percentile (2.16.840.1.113883.3.464.1003.121.12.1012)"
- "Physical Exam, Performed: Height" using "Height (2.16.840.1.113883.3.464.1003.121.12.1014)"
- "Physical Exam, Performed: Weight" using "Weight (2.16.840.1.113883.3.464.1003.121.12.1015)"

3.21 CMS156v10 Use of High-Risk Medications in Older Adults

3.21.1 Detail

Description	Percentage of patients 65 years of age and older who were ordered at least two high-risk medications from the same drug class. Three rates are reported. 1. Percentage of patients 65 years of age and older who were ordered at least two high-risk medications from the same drug class. 2. Percentage of patients 65 years of age and older who were ordered at least two high-risk medications from the same drug class, except for appropriate diagnoses. 3. Total rate (the sum of the two numerators divided by the denominator, deduplicating for patients in both numerators).

Rationale	Certain medications (MacKinnon & Hepler, 2003) are associated with increased risk of harm from drug side-effects and drug toxicity and pose a concern for patient safety. There is clinical consensus that these drugs pose increased risks in older adults (Kaufman, Brodin, & Sarafian, 2005). Potentially inappropriate medication use in older adults has been connected to significantly longer hospital stay lengths and increased hospitalization costs (Hagstrom et al., 2015) as well as increased risk of death (Lau et al. 2004). Use of specific high-risk medications such as hypnotics, including benzodiazepine receptor agonists, and nonsteroidal anti-inflammatory drugs (NSAIDS) can result in increased risk of delirium, falls, fractures, gastrointestinal bleeding and acute kidney injury (Merel et al., 2017). Long-term use of benzodiazepines in older adults has been associated with increased risk of dementia (Zhong et al., 2015; Takada et al., 2016). Additionally, the use of antipsychotics can lead to increased risk of stroke and greater cognitive decline in older adults with dementia (Tampi et al., 2016). Older adults receiving inappropriate medications are more likely to report poorer health status at follow-up, compared to those who receive appropriate medications (Fu, Liu, & Christensen, 2004). A study of the prevalence of potentially inappropriate medication use in older adults found that 40 percent of individuals 65 and older filled at least one prescription for a potentially inappropriate medication and 13 percent filled two or more (Fick et al., 2008). While some adverse drug events are unavoidable, studies estimate that between 30 and 80 percent of adverse drug events in older adults are preventable (MacKinnon & Hepler, 2003). Reducing the number of inappropriate prescriptions can lead to improved patient safety and significant cost savings. Conservative estimates of extra costs due to potentially inappropriate medications in older adults average $7.2 billion a year (Fu et al., 2007). Medication use by older adults will likely increase further as the U.S. population ages, new drugs are developed, and new therapeutic and preventive uses for medications are discovered (Rothberg et al., 2008). The annual direct costs of preventable adverse drug events (ADEs) in the Medicare population have been estimated to exceed $800 million (Institute of Medicine, 2007). By the year 2030, nearly one in five U.S. residents is expected to be aged 65 years or older; this age group is projected to more than double in number from 38.7 million in 2008 to more than 88.5 million in 2050. Likewise, the population aged 85 years or older is expected to increase almost four-fold, from 5.4 million to 19 million between 2008 and 2050. As the older adult population continues to grow, the number of older adults who present with multiple medical conditions for which several medications are prescribed will continue to increase, resulting in polypharmacy concerns (Gray & Gardner, 2009).

Clinical Recommendation Statement	The measure is based on recommendations from the American Geriatrics Society Beers Criteria[R] for Potentially Inappropriate Medication Use in Older Adults (2019 Update). The criteria were developed through key clinical expert consensus processes by Beers in 1997, Zhan in 2001 and an updated process by Fick et al. in 2003, 2012, 2015, and 2019. The Beers Criteria identifies lists of drugs that are potentially inappropriate for all older adults and drugs that are potentially inappropriate in older adults based on various high-risk factors such as dosage, days' supply and underlying diseases or conditions. NCQA's Geriatric Measurement Advisory Panel recommended a subset of drugs that should be used with caution in older adults for inclusion in the measure based upon the recommendations in the Beers Criteria.
Definition	A high-risk medication is identified by either of the following: A prescription for medications classified as high risk at any dose and for any duration. Prescriptions for medications classified as high risk at any dose with greater than a 90-day supply.
Guidance	The intent of the measure is to assess if the patient has been ordered at least two of the same high-risk medication prescriptions from the same medication class on different days. The intent of the measure is to assess if the reporting provider ordered the high-risk medication(s). If the patient had a high-risk medication previously prescribed by another provider, they would not be counted towards the numerator unless the reporting provider also ordered a high-risk medication for them.
Initial Population	Patients 65 years and older who had a visit during the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period. Exclude patients receiving palliative care during the measurement period.
Numerator	Rate 1: Patients with at least two orders of high-risk medications from the same drug class. Rate 2: Patients with at least two orders of high-risk medications from the same drug class (i.e., antipsychotics and benzodiazepines). Total rate (the sum of the two previous numerators, deduplicated).

Numerator Exclusions	Rate 2: For patients with two or more antipsychotic prescriptions ordered, exclude patients who have a diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder on or between January 1 of the year prior to the measurement period and the Index Prescription Start Date (IPSD) for antipsychotics. For patients with two or more benzodiazepine prescriptions ordered, exclude patients who have a diagnosis of seizure disorders, rapid eye movement sleep behavior disorder, benzodiazepine withdrawal, ethanol withdrawal, or severe generalized anxiety disorder on or between January 1 of the year prior to the measurement period and the IPSD for benzodiazepines.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.21.2 Data Entry

Description	Percentage of patients 65 years of age and older who were ordered at least two high-risk medications from the same drug class. Three rates are reported. 1. Percentage of patients 65 years of age and older who were ordered at least two high-risk medications from the same drug class. 2. Percentage of patients 65 years of age and older who were ordered at least two high-risk medications from the same drug class, except for appropriate diagnoses. 3. Total rate (the sum of the two numerators divided by the denominator, deduplicating for patients in both numerators).

Visit or admission, patient age 65 or older at start of measurement period. Multiple encounter codes accepted:

- Inpatient (Value Set 2.16.840.1.113883.3.666.5.307).
- Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Home Healthcare Services (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).
- Discharge Services - Nursing Facility (Value Set 2.16.840.1.113883.3.464.1003.101.12.1013).
- Care Services in Long-Term Residential Facility (Value Set 2.16.840.1.113883.3.464.1003.101.12.1014).
- Annual Wellness Visit (Value Set 2.16.840.1.113883.3.526.3.1240).
- Nursing Facility Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1012).

- Ophthalmologic Outpatient Visit
  (Value Set 2.16.840.1.113883.3.464.1003.101.11.1206).
- Preventive Care Services
  (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1023, ….1025).

See Appendix A for information on using Value Sets.

Excludes patients on hospice, comfort measures, or discharged to hospice (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

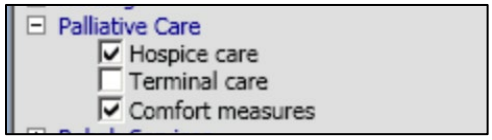


Figure 3-36: Palliative Care list

Numerator 1: To see if ANY high-risk meds prescribed:

- Prescribed any medication on high risk medications for the elderly list (See value sets).
- Given prescription for any of these meds with over 90-day supply.

Numerator 2: (any duplicate prescriptions, or two meds in same class with more than 90-day supply). Any of the following:

- Two prescriptions for meds listed “list of single RX NORM code concepts” for High Risk drugs for the Elderly (value sets) during measurement period.
- Sum of prescribed days >90 for 2 prescriptions for Nonbenzodiazepine hypnotics plus Nonbenzodiazepine hypnotics during measurement period.
- Sum of prescribed days >90 for two prescriptions for “anti-infectives, other”, during measurement period. (See value sets for list of medications).

3.21.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- code "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." ("CPT Code (99211)")

- valueset "Alcohol Withdrawal" (2.16.840.1.113883.3.464.1003.105.12.1209)
- valueset "Amitriptyline Hydrochloride" (2.16.840.1.113883.3.464.1003.196.12.1373)
- valueset "Amoxapine" (2.16.840.1.113883.3.464.1003.196.12.1273)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Anti Infectives, other" (2.16.840.1.113883.3.464.1003.196.12.1481)
- valueset "Antipsychotic" (2.16.840.1.113883.3.464.1003.196.12.1523)
- valueset "Atropine" (2.16.840.1.113883.3.464.1003.196.12.1274)
- valueset "Benzodiazepine" (2.16.840.1.113883.3.464.1003.196.12.1522)
- valueset "Benzodiazepine Withdrawal" (2.16.840.1.113883.3.464.1003.105.12.1208)
- valueset "Benztropine" (2.16.840.1.113883.3.464.1003.196.12.1361)
- valueset "Bipolar Disorder" (2.16.840.1.113883.3.464.1003.105.12.1157)
- valueset "Brompheniramine" (2.16.840.1.113883.3.464.1003.196.12.1427)
- valueset "Butabarbital" (2.16.840.1.113883.3.464.1003.196.12.1402)
- valueset "Butalbital" (2.16.840.1.113883.3.464.1003.196.12.1514)
- valueset "Carbinoxamine" (2.16.840.1.113883.3.464.1003.196.12.1306)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)valueset "Carisoprodol" (2.16.840.1.113883.3.464.1003.196.12.1369)
- valueset "Chlorpheniramine" (2.16.840.1.113883.3.464.1003.196.12.1352)
- valueset "Chlorpropamide" (2.16.840.1.113883.3.464.1003.196.12.1303)
- valueset "Chlorzoxazone" (2.16.840.1.113883.3.464.1003.196.12.1362)
- valueset "Clemastine" (2.16.840.1.113883.3.464.1003.196.12.1308)
- valueset "Clomipramine" (2.16.840.1.113883.3.464.1003.196.12.1336)
- valueset "Conjugated Estrogens" (2.16.840.1.113883.3.464.1003.196.12.1357)
- valueset "Cyclobenzaprine Hydrochloride" (2.16.840.1.113883.3.464.1003.196.12.1372)
- valueset "Cyproheptadine" (2.16.840.1.113883.3.464.1003.196.12.1277)
- valueset "Desiccated Thyroid" (2.16.840.1.113883.3.464.1003.196.12.1354)
- valueset "Desipramine" (2.16.840.1.113883.3.464.1003.196.12.1278)
- valueset "Dexbrompheniramine" (2.16.840.1.113883.3.464.1003.196.12.1375)

- valueset "Dexchlorpheniramine" (2.16.840.1.113883.3.464.1003.196.12.1300)
- valueset "Dicyclomine" (2.16.840.1.113883.3.464.1003.196.12.1279)
- valueset "Dimenhydrinate" (2.16.840.1.113883.3.464.1003.196.12.1500)
- valueset "Diphenhydramine" (2.16.840.1.113883.3.464.1003.196.12.1293)
- valueset "Dipyridamole" (2.16.840.1.113883.3.464.1003.196.12.1349)
- valueset "Discharge Services - Nursing Facility" (2.16.840.1.113883.3.464.1003.101.12.1013)
- valueset "Disopyramide" (2.16.840.1.113883.3.464.1003.196.12.1311)
- valueset "Doxylamine" (2.16.840.1.113883.3.464.1003.196.12.1515)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Esterified Estrogens" (2.16.840.1.113883.3.464.1003.196.12.1419)
- valueset "Estradiol" (2.16.840.1.113883.3.464.1003.196.12.1365)
- valueset "Estropipate" (2.16.840.1.113883.3.464.1003.196.12.1319)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Generalized Anxiety Disorder" (2.16.840.1.113883.3.464.1003.105.12.1210)
- valueset "Glyburide" (2.16.840.1.113883.3.464.1003.196.12.1368)
- valueset "Guanfacine" (2.16.840.1.113883.3.464.1003.196.12.1341)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Hydroxyzine" (2.16.840.1.113883.3.464.1003.196.12.1374)
- valueset "Hyoscyamine" (2.16.840.1.113883.3.464.1003.196.12.1501)
- valueset "Imipramine" (2.16.840.1.113883.3.464.1003.196.12.1359)
- valueset "Indomethacin" (2.16.840.1.113883.3.464.1003.196.12.1366)
- valueset "Isoxsuprine" (2.16.840.1.113883.3.464.1003.196.12.1422)
- valueset "Ketorolac Tromethamine" (2.16.840.1.113883.3.464.1003.196.12.1364)
- valueset "List of Single RxNorm Code Concepts for High Risk Drugs for the Elderly" (2.16.840.1.113883.3.464.1003.196.12.1272)
- valueset "Meclizine" (2.16.840.1.113883.3.464.1003.196.12.1506)
- valueset "Megestrol" (2.16.840.1.113883.3.464.1003.196.12.1342)
- valueset "Meperidine" (2.16.840.1.113883.3.464.1003.196.12.1351)

- valueset "Meprobamate" (2.16.840.1.113883.3.464.1003.196.12.1284)
- valueset "Metaxalone" (2.16.840.1.113883.3.464.1003.196.12.1358)
- valueset "Methocarbamol" (2.16.840.1.113883.3.464.1003.196.12.1370)
- valueset "Methscopolamine" (2.16.840.1.113883.3.464.1003.196.12.1525)
- valueset "Methyldopa" (2.16.840.1.113883.3.464.1003.196.12.1331)
- valueset "Nifedipine" (2.16.840.1.113883.3.464.1003.196.12.1353)
- valueset "Nonbenzodiazepine hypnotics" (2.16.840.1.113883.3.464.1003.196.12.1480)
- valueset "Nortriptyline" (2.16.840.1.113883.3.464.1003.196.12.1507)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Ophthalmologic Services" (2.16.840.1.113883.3.464.1003.101.11.1206)
- valueset "Orphenadrine" (2.16.840.1.113883.3.464.1003.196.12.1302)
- valueset "Other Bipolar Disorder" (2.16.840.1.113883.3.464.1003.105.12.1204)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)
- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)
- valueset "Paroxetine" (2.16.840.1.113883.3.464.1003.196.12.1508)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pentobarbital" (2.16.840.1.113883.3.464.1003.196.12.1518)
- valueset "Phenobarbital" (2.16.840.1.113883.3.464.1003.196.12.1348)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Promethazine Hydrochloride" (2.16.840.1.113883.3.464.1003.196.12.1367)
- valueset "Propantheline" (2.16.840.1.113883.3.464.1003.196.12.1519)
- valueset "Protriptyline" (2.16.840.1.113883.3.464.1003.196.12.1509)
- valueset "Pyrilamine" (2.16.840.1.113883.3.464.1003.196.12.1524)

- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "REM Sleep Behavior Disorder" (2.16.840.1.113883.3.464.1003.105.12.1207)
- valueset "Schizophrenia" (2.16.840.1.113883.3.464.1003.105.12.1205)
- valueset "Scopolamine" (2.16.840.1.113883.3.464.1003.196.12.1520)
- valueset "Secobarbital" (2.16.840.1.113883.3.464.1003.196.12.1521)
- valueset "Seizure Disorder" (2.16.840.1.113883.3.464.1003.105.12.1206)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Trihexyphenidyl" (2.16.840.1.113883.3.464.1003.196.12.1334)
- valueset "Trimipramine" (2.16.840.1.113883.3.464.1003.196.12.1285)
- valueset "Triprolidine" (2.16.840.1.113883.3.464.1003.196.12.1408)

3.21.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Diagnosis: Alcohol Withdrawal" using "Alcohol Withdrawal (2.16.840.1.113883.3.464.1003.105.12.1209)"
- "Diagnosis: Benzodiazepine Withdrawal" using "Benzodiazepine Withdrawal (2.16.840.1.113883.3.464.1003.105.12.1208)"
- "Diagnosis: Bipolar Disorder" using "Bipolar Disorder (2.16.840.1.113883.3.464.1003.105.12.1157)"
- "Diagnosis: Generalized Anxiety Disorder" using "Generalized Anxiety Disorder (2.16.840.1.113883.3.464.1003.105.12.1210)"
- "Diagnosis: Other Bipolar Disorder" using "Other Bipolar Disorder (2.16.840.1.113883.3.464.1003.105.12.1204)"
- "Diagnosis: REM Sleep Behavior Disorder" using "REM Sleep Behavior Disorder (2.16.840.1.113883.3.464.1003.105.12.1207)"
- "Diagnosis: Schizophrenia" using "Schizophrenia (2.16.840.1.113883.3.464.1003.105.12.1205)"
- "Diagnosis: Seizure Disorder" using "Seizure Disorder (2.16.840.1.113883.3.464.1003.105.12.1206)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"

- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Discharge Services - Nursing Facility" using "Discharge Services - Nursing Facility (2.16.840.1.113883.3.464.1003.101.12.1013)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal." using "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician or other qualified health care professional. Usually, the presenting problem(s) are minimal. (CPT Code 99211)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Ophthalmologic Services" using "Ophthalmologic Services (2.16.840.1.113883.3.464.1003.101.11.1206)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"

- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Medication, Order: Amitriptyline Hydrochloride" using "Amitriptyline Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1373)"
- "Medication, Order: Amoxapine" using "Amoxapine (2.16.840.1.113883.3.464.1003.196.12.1273)"
- "Medication, Order: Anti Infectives, other" using "Anti Infectives, other (2.16.840.1.113883.3.464.1003.196.12.1481)"
- "Medication, Order: Antipsychotic" using "Antipsychotic (2.16.840.1.113883.3.464.1003.196.12.1523)"
- "Medication, Order: Atropine" using "Atropine (2.16.840.1.113883.3.464.1003.196.12.1274)"
- "Medication, Order: Benzodiazepine" using "Benzodiazepine (2.16.840.1.113883.3.464.1003.196.12.1522)"
- "Medication, Order: Benztropine" using "Benztropine (2.16.840.1.113883.3.464.1003.196.12.1361)"
- "Medication, Order: Brompheniramine" using "Brompheniramine (2.16.840.1.113883.3.464.1003.196.12.1427)"
- "Medication, Order: Butabarbital" using "Butabarbital (2.16.840.1.113883.3.464.1003.196.12.1402)"
- "Medication, Order: Butalbital" using "Butalbital (2.16.840.1.113883.3.464.1003.196.12.1514)"
- "Medication, Order: Carbinoxamine" using "Carbinoxamine (2.16.840.1.113883.3.464.1003.196.12.1306)"
- "Medication, Order: Carisoprodol" using "Carisoprodol (2.16.840.1.113883.3.464.1003.196.12.1369)"
- "Medication, Order: Chlorpheniramine" using "Chlorpheniramine (2.16.840.1.113883.3.464.1003.196.12.1352)"
- "Medication, Order: Chlorpropamide" using "Chlorpropamide (2.16.840.1.113883.3.464.1003.196.12.1303)"
- "Medication, Order: Chlorzoxazone" using "Chlorzoxazone (2.16.840.1.113883.3.464.1003.196.12.1362)"
- "Medication, Order: Clemastine" using "Clemastine (2.16.840.1.113883.3.464.1003.196.12.1308)"
- "Medication, Order: Clomipramine" using "Clomipramine (2.16.840.1.113883.3.464.1003.196.12.1336)"

- "Medication, Order: Conjugated Estrogens" using "Conjugated Estrogens (2.16.840.1.113883.3.464.1003.196.12.1357)"
- "Medication, Order: Cyclobenzaprine Hydrochloride" using "Cyclobenzaprine Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1372)"
- "Medication, Order: Cyproheptadine" using "Cyproheptadine (2.16.840.1.113883.3.464.1003.196.12.1277)"
- "Medication, Order: Desiccated Thyroid" using "Desiccated Thyroid (2.16.840.1.113883.3.464.1003.196.12.1354)"
- "Medication, Order: Desipramine" using "Desipramine (2.16.840.1.113883.3.464.1003.196.12.1278)"
- "Medication, Order: Dexbrompheniramine" using "Dexbrompheniramine (2.16.840.1.113883.3.464.1003.196.12.1375)"
- "Medication, Order: Dexchlorpheniramine" using "Dexchlorpheniramine (2.16.840.1.113883.3.464.1003.196.12.1300)"
- "Medication, Order: Dicyclomine" using "Dicyclomine (2.16.840.1.113883.3.464.1003.196.12.1279)"
- "Medication, Order: Dimenhydrinate" using "Dimenhydrinate (2.16.840.1.113883.3.464.1003.196.12.1500)"
- "Medication, Order: Diphenhydramine" using "Diphenhydramine (2.16.840.1.113883.3.464.1003.196.12.1293)"
- "Medication, Order: Dipyridamole" using "Dipyridamole (2.16.840.1.113883.3.464.1003.196.12.1349)"
- "Medication, Order: Disopyramide" using "Disopyramide (2.16.840.1.113883.3.464.1003.196.12.1311)"
- "Medication, Order: Doxylamine" using "Doxylamine (2.16.840.1.113883.3.464.1003.196.12.1515)"
- "Medication, Order: Esterified Estrogens" using "Esterified Estrogens (2.16.840.1.113883.3.464.1003.196.12.1419)"
- "Medication, Order: Estradiol" using "Estradiol (2.16.840.1.113883.3.464.1003.196.12.1365)"
- "Medication, Order: Estropipate" using "Estropipate (2.16.840.1.113883.3.464.1003.196.12.1319)"
- "Medication, Order: Glyburide" using "Glyburide (2.16.840.1.113883.3.464.1003.196.12.1368)"
- "Medication, Order: Guanfacine" using "Guanfacine (2.16.840.1.113883.3.464.1003.196.12.1341)"

- "Medication, Order: Hydroxyzine" using "Hydroxyzine (2.16.840.1.113883.3.464.1003.196.12.1374)"
- "Medication, Order: Hyoscyamine" using "Hyoscyamine (2.16.840.1.113883.3.464.1003.196.12.1501)"
- "Medication, Order: Imipramine" using "Imipramine (2.16.840.1.113883.3.464.1003.196.12.1359)"
- "Medication, Order: Indomethacin" using "Indomethacin (2.16.840.1.113883.3.464.1003.196.12.1366)"
- "Medication, Order: Isoxsuprine" using "Isoxsuprine (2.16.840.1.113883.3.464.1003.196.12.1422)"
- "Medication, Order: Ketorolac Tromethamine" using "Ketorolac Tromethamine (2.16.840.1.113883.3.464.1003.196.12.1364)"
- "Medication, Order: List of Single RxNorm Code Concepts for High Risk Drugs for the Elderly" using "List of Single RxNorm Code Concepts for High Risk Drugs for the Elderly (2.16.840.1.113883.3.464.1003.196.12.1272)"
- "Medication, Order: Meclizine" using "Meclizine (2.16.840.1.113883.3.464.1003.196.12.1506)"
- "Medication, Order: Megestrol" using "Megestrol (2.16.840.1.113883.3.464.1003.196.12.1342)"
- "Medication, Order: Meperidine" using "Meperidine (2.16.840.1.113883.3.464.1003.196.12.1351)"
- "Medication, Order: Meprobamate" using "Meprobamate (2.16.840.1.113883.3.464.1003.196.12.1284)"
- "Medication, Order: Metaxalone" using "Metaxalone (2.16.840.1.113883.3.464.1003.196.12.1358)"
- "Medication, Order: Methocarbamol" using "Methocarbamol (2.16.840.1.113883.3.464.1003.196.12.1370)"
- "Medication, Order: Methscopolamine" using "Methscopolamine (2.16.840.1.113883.3.464.1003.196.12.1525)"
- "Medication, Order: Methyldopa" using "Methyldopa (2.16.840.1.113883.3.464.1003.196.12.1331)"
- "Medication, Order: Nifedipine" using "Nifedipine (2.16.840.1.113883.3.464.1003.196.12.1353)"
- "Medication, Order: Nonbenzodiazepine hypnotics" using "Nonbenzodiazepine hypnotics (2.16.840.1.113883.3.464.1003.196.12.1480)"
- "Medication, Order: Nortriptyline" using "Nortriptyline (2.16.840.1.113883.3.464.1003.196.12.1507)"

- "Medication, Order: Orphenadrine" using "Orphenadrine (2.16.840.1.113883.3.464.1003.196.12.1302)"
- "Medication, Order: Paroxetine" using "Paroxetine (2.16.840.1.113883.3.464.1003.196.12.1508)"
- "Medication, Order: Pentobarbital" using "Pentobarbital (2.16.840.1.113883.3.464.1003.196.12.1518)"
- "Medication, Order: Phenobarbital" using "Phenobarbital (2.16.840.1.113883.3.464.1003.196.12.1348)"
- "Medication, Order: Promethazine Hydrochloride" using "Promethazine Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1367)"
- "Medication, Order: Propantheline" using "Propantheline (2.16.840.1.113883.3.464.1003.196.12.1519)"
- "Medication, Order: Protriptyline" using "Protriptyline (2.16.840.1.113883.3.464.1003.196.12.1509)"
- "Medication, Order: Pyrilamine" using "Pyrilamine (2.16.840.1.113883.3.464.1003.196.12.1524)"
- "Medication, Order: Scopolamine" using "Scopolamine (2.16.840.1.113883.3.464.1003.196.12.1520)"
- "Medication, Order: Secobarbital" using "Secobarbital (2.16.840.1.113883.3.464.1003.196.12.1521)"
- "Medication, Order: Trihexyphenidyl" using "Trihexyphenidyl (2.16.840.1.113883.3.464.1003.196.12.1334)"
- "Medication, Order: Trimipramine" using "Trimipramine (2.16.840.1.113883.3.464.1003.196.12.1285)"
- "Medication, Order: Triprolidine" using "Triprolidine (2.16.840.1.113883.3.464.1003.196.12.1408)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.22 CMS159v10 Depression Remission at Twelve Months

3.22.1 Detail

Description	The percentage of adolescent patients 12 to 17 years of age and adult patients 18 years of age or older with major depression or dysthymia who reached remission 12 months (+/- 60 days) after an index event.
Stratification	Ages 12 to 17 at time of index assessment. Ages 18 and older at time of index assessment.

Rationale	Adults: Depression is a common and treatable mental disorder. 8.1% of American adults age 20 and over had depression in a given 2 week period. Women (10.4%) were almost twice as likely as men (5.5%) to have had depression. The prevalence of depression among adults decreased as family income levels increased. About 80% of adults with depression reported at least some difficulty with work, home, or social activities because of their depression symptoms (Centers for Disease Control and Prevention, 2018). Depression is a risk factor for development of chronic illnesses such as diabetes and CHD and adversely affects the course, complications and management of chronic medical illness. Both maladaptive health risk behaviors and psychobiological factors associated with depression may explain depression's negative effect on outcomes of chronic illness. (Katon, W.J., 2011) Adolescents and Adults: The Centers for Disease Control and Prevention states that during 2009-2012 an estimated 7.6% of the U.S. population aged 12 and over had depression, including 3% of Americans with severe depressive symptoms. Almost 43% of persons with severe depressive symptoms reported serious difficulties in work, home and social activities, yet only 35% reported having contact with a mental health professional in the past year. Depression is associated with higher mortality rates in all age groups. People who are depressed are 30 times more likely to take their own lives than people who are not depressed and five times more likely to abuse drugs. Depression is the leading cause of medical disability for people aged 14 to 44. Depressed people lose 5.6 hours of productive work every week when they are depressed, fifty percent of which is due to absenteeism and short-term disability. Adolescents: In 2014, an estimated 2.8 million adolescents age 12 to 17 in the United States had at least one major depressive episode (MDE) in the past year. This represented 11.4% of the U.S. population. The same survey found that only 41.2 percent of those who had a MDE received treatment in the past year. The 2013 Youth Risk Behavior Survey of students grades 9 to 12 indicated that during the past 12 months 39.1% (F) and 20.8% (M) indicated feeling sad or hopeless almost every day for at least 2 weeks, planned suicide attempt 16.9% (F) and 10.3% (M), with attempted suicide 10.6% (F) and 5.4% (M). Adolescent-onset depression is associated with chronic depression in adulthood. Many mental health conditions (anxiety, bipolar, depression, eating disorders, and substance abuse) are evident by age 14. The 12-month prevalence of MDEs increased from 8.7% in 2005 to 11.3% in 2014 in adolescents and from 8.8% to 9.6% in young adults (both $P < .001$). The increase was larger and statistically significant only in the age range of 12 to 20 years. The trends remained significant after adjustment for substance use disorders and sociodemographic factors. Mental health care contacts overall did not change over time; however, the use of specialty mental health providers increased in adolescents and young adults, and the use of prescription medications and

	inpatient hospitalizations increased in adolescents. In 2015, 9.7% of adolescents in MN who were screened for depression or other mental health conditions, screened positively.

Clinical Recommendation Statement	Adults: Source: Institute for Clinical Systems Improvement (ICSI) Health Care Guideline for Adult Depression in Primary Care (Trangle et al., 2016) Recommendations and algorithm notations supporting depression outcomes and duration of treatment according to ICSI's Health Care Guideline: Recommendation: Clinicians should establish and maintain follow-up with patients. Appropriate, reliable follow-up is highly correlated with improved response and remission scores. It is also correlated with the improved safety and efficacy of medications and helps prevent relapse. Proactive follow-up contacts (in person, telephone) based on the collaborative care model have been shown to significantly lower depression severity (Unutzer et al., 2002). In the available clinical effectiveness trials conducted in real clinical practice settings, even the addition of a care manager leads to modest remission rates (Trivedi et al., 2006; Unutzer et al., 2002). Interventions are critical to educating the patient regarding the importance of preventing relapse, safety and efficacy of medications, and management of potential side effects. Establish and maintain initial follow-up contact intervals (office, phone, other) (Hunkeler et al., 2000; Simon et al., 2000). PHQ-9 as monitor and management tool. The PHQ-9 is an effective management tool, as well, and should be used routinely for subsequent visits to monitor treatment outcomes and severity. It can also help the clinician decide if/how to modify the treatment plan (Duffy et al., 2008; Lowe et al., 2004). Using a measurement-based approach to depression care, PHQ-9 results, and side effect evaluation should be combined with treatment algorithms to drive patients toward remission. A five-point drop in PHQ-9 score is considered the minimal clinically significant difference (Trivedi, 2009). The goals of treatment should be to achieve remission, reduce relapse and recurrence, and return to previous level of occupational and psychosocial function. If using a PHQ-9 tool, remission translates to PHQ-9 score of less than 5 (Kroenke, 2001). Results from the STAR*D study showed that remission rates lowered with more treatment steps, but the overall cumulative rate was 67% (Rush et al., 2006). Response and remission take time. In the STAR*D study, longer times than expected were needed to reach response or remission. In fact, one-third of those who ultimately responded did so after six weeks. Of those who achieved remission by Quick Inventory of Depressive Symptomatology (QIDS), 50% did so only at or after six weeks of treatment (Trivedi et al., 2006). If the primary care clinician is seeing some improvement, continue working with that patient to augment or increase dosage to reach remission. This can take up to three months. This measure assesses achievement of remission, which is a desired outcome of effective depression treatment and monitoring. Adult Depression in Primary Care - Guideline Aims

	– Increase the percentage of patients with major depression or persistent depressive disorder who have improvement in outcomes from treatment for major depression or persistent depressive disorder. – Increase the percentage of patients with major depression or persistent depressive disorder who have follow-up to assess for outcomes from treatment. – Improve communication between the primary care physician and the mental health care clinician (if patient is co-managed). Adolescents: Source: American Academy of Child and Adolescent Psychiatry Practice Parameter for the Assessment and Treatment of Children and Adolescents with Depressive Disorders (2007) http://www.jaacap.com/article/S0890-8567(09)62053-0/pdf Recommendations: Recommendations supporting depression outcomes and duration of treatment according to AACAP guideline: – Treatment of depressive disorders should always include an acute and continuation phase; some children may also require maintenance treatment. The main goal of the acute phase is to achieve response and ultimately full symptomatic remission (definitions below). – Each phase of treatment should include psychoeducation, supportive management, and family and school involvement. – Education, support, and case management appear to be sufficient treatment for the management of depressed children and adolescents with an uncomplicated or brief depression or with mild psychosocial impairment. – For children and adolescents who do not respond to supportive psychotherapy or who have more complicated depressions, a trial with specific types of psychotherapy and/or antidepressants is indicated. Sources: Guidelines for Adolescent Depression in Primary Care (GLAD-PC) (2018) http://pediatrics.aappublications.org/content/141/3/e20174081 Guidelines for adolescent depression in primary care (GLAD-PC): II. Treatment and ongoing management http://pediatrics.aappublications.org/content/141/3/e20174082 Recommendations supporting depression outcomes and duration of treatment according to GLAD-PC: Recommendations for Ongoing Management of Depression: - Mild depression: consider a period of active support and monitoring before starting other evidence-based treatment

	– Moderate or severe major clinical depression or complicating factors: – Consultation with mental health specialist with agreed upon roles – Evidence based treatment (CBT or IPT and/or antidepressant SSRI) – Monitor for adverse effects during antidepressant therapy – Clinical worsening, suicidality, unusual changes in behavior – Systematic and regular tracking of goals and outcomes – Improvement in functioning status and resolution of depressive symptoms Regardless of the length of treatment, all patients should be monitored on a monthly basis for 6 to 12 months after the full resolution of symptoms.
Definition	Denominator Identification Period: The period in which eligible patients can have an index event. The denominator identification period occurs prior to the measurement period and is defined as 14 months to two months prior to the start of the measurement period. For patients with an index event, there needs to be enough time following index for the patients to have the opportunity to reach remission twelve months +/- 60 days after the index event date. Index Event Date: The date in which the first instance of elevated PHQ-9 or PHQ-9M greater than nine and diagnosis of depression or dysthymia occurs during the denominator identification measurement period. Patients may be screened using PHQ-9 and PHQ-9M up to 7 days prior to the office visit (including the day of the office visit). Measure Assessment Period: The index event date marks the start of the measurement assessment period for each patient which is 14 months (12 months +/- 60 days) in length to allow for a follow-up PHQ-9 or PHQ-9M between 10 and 14 months following the index event. This assessment period is fixed and does not start over with a higher PHQ-9 or PHQ-9M that may occur after the index event date. Remission is defined as a PHQ-9 or PHQ-9M score of less than five. Twelve months is defined as the point in time from the index event date extending out twelve months and then allowing a grace period of sixty days prior to and sixty days after this date. The most recent PHQ-9 or PHQ-9M score less than five obtained during this four month period is deemed as remission at twelve months, values obtained prior to or after this period are not counted as numerator compliant (remission).
Guidance	When a baseline assessment is conducted with PHQ 9M, the follow-up assessment can use either a PHQ 9M or PHQ 9.

Initial Population	Adolescent patients 12 to 17 years of age and adult patients 18 years of age and older with a diagnosis of major depression or dysthymia and an initial PHQ-9 or PHQ-9M score greater than nine during the index event. Patients may be assessed using PHQ-9 or PHQ-9M on the same date or up to 7 days prior to the encounter (index event).
Denominator	Equals Initial Population
Denominator Exclusions	Patients who died. Patients who received hospice or palliative care services. Patients who were permanent nursing home residents Patients with a diagnosis of bipolar disorder Patients with a diagnosis of personality disorder emotionally labile. Patients with a diagnosis of schizophrenia or psychotic disorder Patients with a diagnosis of pervasive developmental disorder
Numerator	Adolescent patients 12 to 17 years of age and adult patients 18 years of age and older who achieved remission at twelve months as demonstrated by a twelve month (+/- 60 days) PHQ-9 or PHQ-9M score of less than five
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.22.2 Data Entry

Description	The percentage of adolescent patients 12 to 17 years of age and adult patients 18 years of age or older with major depression or dysthymia who reached remission 12 months (+/- 60 days) after an index event.

Index event (when PHQ-9 elevated), patient age 12 or more.

PHQ-9 >9 (Enter in Vital Signs).

Index event occurs between 14 months before start of measurement period and 2 months before start of measurement period (to allow time for 12 month follow up).

Diagnosis, wither of the following:

- "Depression" (Value Set: 2.16.840.113883.3.67.1.101.3.2444).
- "Dysthymia" (Value Set: 2.16.840.1.113883.3.67.1.101.1.254).

Denominator Exclusions:

- Palliative care order/encounter before interval (index event + 10-14 months).
- Care services in Long-term residential facility before same interval (Value Set: 2.16.840.1.113883.3.464.1003.101.12.1014).
- Patient expires before same interval.
- "Disorder diagnosis" before same interval.
  - Bipolar disorder (Value Set: 2.16.840.1.113883.3.67.1.101.1.128).
  - Personality disorder (Value Set: 2.16.840.1.113883.3.67.1.101.1.246).
  - Schizophrenia / psychotic disorder (Value Set: 2.16.840.1.113883.3.464.1003.105.12.1104).
  - Pervasive developmental disorder (Value Set: 2.16.840.1.113883.3.464.1003.105.12.1152).

Numerator:

PHQ-9 <5 score in same interval as above (12 months plus or minus 60 days).

- Stratification 1: Age 12-17 at index encounter with diagnosis depression.
- Stratification 2: Age 18+.

3.22.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Dead (finding)" ("SNOMEDCT Code (419099009)")
- valueset "Bipolar Disorder" (2.16.840.1.113883.3.67.1.101.1.128)
- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Contact or Office Visit" (2.16.840.1.113762.1.4.1080.5)
- valueset "Dysthymia" (2.16.840.1.113883.3.67.1.101.1.254)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Major Depression Including Remission" (2.16.840.113883.3.67.1.101.3.2444)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.600.1.1575)
- valueset "Palliative or Hospice Care" (2.16.840.1.113883.3.600.1.1579)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Personality Disorder Emotionally Labile" (2.16.840.1.113883.3.67.1.101.1.246)

- valueset "Pervasive Developmental Disorder" (2.16.840.1.113883.3.464.1003.105.12.1152)
- valueset "PHQ 9 and PHQ 9M Tools" (2.16.840.1.113883.3.67.1.101.1.263)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Schizophrenia or Psychotic Disorder" (2.16.840.1.113883.3.464.1003.105.12.1104)

3.22.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: PHQ 9 and PHQ 9M Tools" using "PHQ 9 and PHQ 9M Tools (2.16.840.1.113883.3.67.1.101.1.263)"
- "Diagnosis: Bipolar Disorder" using "Bipolar Disorder (2.16.840.1.113883.3.67.1.101.1.128)"
- "Diagnosis: Dysthymia" using "Dysthymia (2.16.840.1.113883.3.67.1.101.1.254)"
- "Diagnosis: Major Depression Including Remission" using "Major Depression Including Remission (2.16.840.113883.3.67.1.101.3.2444)"
- "Diagnosis: Personality Disorder Emotionally Labile" using "Personality Disorder Emotionally Labile (2.16.840.1.113883.3.67.1.101.1.246)"
- "Diagnosis: Pervasive Developmental Disorder" using "Pervasive Developmental Disorder (2.16.840.1.113883.3.464.1003.105.12.1152)"
- "Diagnosis: Schizophrenia or Psychotic Disorder" using "Schizophrenia or Psychotic Disorder (2.16.840.1.113883.3.464.1003.105.12.1104)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Contact or Office Visit" using "Contact or Office Visit (2.16.840.1.113762.1.4.1080.5)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.600.1.1575)"
- "Intervention, Order: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Expired: Dead (finding)" using "Dead (finding) (SNOMEDCT Code 419099009)"

- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.23 CMS160v7 Depression Utilization of the PHQ-9 Tool (retired measure – for trending purposes only)

3.23.1 Detail

Description	The percentage of adolescent patients 12 to 17 years of age and adult patients age 18 and older with the diagnosis of major depression or dysthymia who have a completed PHQ-9 during each applicable four-month period in which there was a qualifying depression encounter.
Stratification:	Ages 12 to 17. Ages 18 and older.

Rationale	Adolescents: In 2014, an estimated 2.8 million adolescents age 12 to 17 in the United States had at least one major depressive episode in the past year. This represented 11.4% of the U.S. population. The same survey found that only 41.2 percent of those who had a Major Depressive Episode received treatment in the past year. The 2013 Youth Risk Behavior Survey of students grades 9 to 12 indicated that during the past 12 months 39.1% (F) and 20.8% (M) indicated feeling sad or hopeless almost every day for at least 2 weeks, planned suicide attempt 16.9% (F) and 10.3% (M), with attempted suicide 10.6% (F) and 5.4% (M). Adolescent-onset depression is associated with chronic depression in adulthood. Many mental health conditions (anxiety, bipolar, depression, eating disorders, and substance abuse) are evident by age 14. The 12-month prevalence of MDEs increased from 8.7% in 2005 to 11.3% in 2014 in adolescents and from 8.8% to 9.6% in young adults (both P < .001). The increase was larger and statistically significant only in the age range of 12 to 20 years. The trends remained significant after adjustment for substance use disorders and sociodemographic factors. Mental health care contacts overall did not change over time; however, the use of specialty mental health providers increased in adolescents and young adults, and the use of prescription medications and inpatient hospitalizations increased in adolescents. In 2015, 9.7% of adolescents in MN who were screened for depression or other mental health conditions, screened positively. Please note that this process measure for administration of the PHQ-9 or PHQ-9M depression tool, a PROM that is validated for both the assessment and diagnosis of depression as well as for monitoring ongoing outcomes of treatment, is a PAIRED process measure with RELATED measures of depression remission (PHQ-9/PHQ-9M < 5) and depression response (PHQ-9/PHQ-9M is improved by > 50%) at six and twelve months. To quote a NQF Behavioral Steering Committee member as these measures were initially endorsed "the best way to avoid being measured is to never give the PHQ-9". This process measure allows an understanding of the use of the tool in the target population, promotes frequent and follow-up contact with patients whose score indicates a need for treatment and serves as a catalyst in a collaborative care model for patients with major depression or dysthymia. It is estimated that up to 90% of patients diagnosed with depression and anxiety are treated solely in primary care (National Institute for Health and Care Excellence, 2011).

Clinical Recommendation Statement	Adults: Source: ICSI Health Care Guideline for Adult Depression in Primary Care (Trangle, 2016). Major depression is a treatable cause of pain, suffering, disability and death, yet primary care clinicians detect major depression in only one-third to one-half of their patients with major depression (Williams Jr, 2002; Schonfeld, 1997). Usual care for depression in the primary care setting has resulted in only about half of depressed adults getting treated (Kessler, 2005) and only 20-40% showing substantial improvement over 12 months (Unutzer, 2002; Katon, 1999). Recommendations and algorithm notations supporting depression assessment and monitoring of depression outcomes according to ICSI's Health Care Guideline: Recommendation: Clinicians should establish and maintain follow-up with patients. Appropriate, reliable follow-up is highly correlated with improved response and remission scores. It is also correlated with the improved safety and efficacy of medications and helps prevent relapse. Proactive follow-up contacts (in person, telephone) based on the collaborative care model have been shown to significantly lower depression severity (Unutzer, 2002). In the available clinical effectiveness trials conducted in real clinical practice settings, even the addition of a care manager leads to modest remission rates (Trivedi, 2006-; Unutzer, 2002). Interventions are critical to educating the patient regarding the importance of preventing relapse, safety and efficacy of medications, and management of potential side effects. Establish and maintain initial follow-up contact intervals (office, phone, other) (Hunkeler, 2000; Simon, 2000). PHQ-9 as monitor and management tool. The PHQ-9 is an effective management tool, as well, and should be used routinely for subsequent visits to monitor treatment outcomes and severity. It can also help the clinician decide if/how to modify the treatment plan (Duffy, 2008; Lowe, 2004). Using a measurement-based approach to depression care, PHQ-9 results and side effect evaluation should be combined with treatment algorithms to drive patients toward remission. A five-point drop in PHQ-9 score is considered the minimal clinically significant difference (Trivedi, 2009). Every time that the PHQ-9 is assessed, suicidality is assessed, as well. If the suicidality was indeed of high risk, urgent referral to crisis specialty health care is advised. In case of low suicide risk, the patient can proceed with treatment in the primary care practice (Huijbregts, 2013). Adult Depression in Primary Care - Guideline Aims Increase the percentage of patients with major depression or persistent depressive disorder who have improvement in outcomes from treatment for major depression or persistent depressive disorder. Increase the percentage of patients with major depression or persistent depressive disorder who have follow-up to assess for outcomes from treatment. Improve communication between the primary care physician and the mental health care clinician (if patient is co-managed). Adolescents:

	Source: American Academy of Child and Adolescent Psychiatry Practice Parameter for the Assessment and Treatment of Children and Adolescents with Depressive Disorders (2007) http://www.jaacap.com/article/S0890-8567(09)62053-0/pdf Recommendations: Recommendations supporting depression outcomes and duration of treatment according to AACAP guideline: Treatment of depressive disorders should always include an acute and continuation phase; some children may also require maintenance treatment. The main goal of the acute phase is to achieve response and ultimately full symptomatic remission (definitions below). Each phase of treatment should include psychoeducation, supportive management, and family and school involvement Education, support, and case management appear to be sufficient treatment for the management of depressed children and adolescents with an uncomplicated or brief depression or with mild psychosocial impairment For children and adolescents who do not respond to supportive psychotherapy or who have more complicated depressions, a trial with specific types of psychotherapy and/or antidepressants is indicated Definitions: Response: No symptoms or a significant reduction in depressive symptoms for at least 2 weeks Remission: A period of at least 2 weeks and <2months with no or few depressive symptoms Recovery: Absence of significant symptoms of depression (e.g., no more than 1 to 2 symptoms) for greater than 2 months Relapse: A DSM episode of depression during the period of remission Recurrence: The emergence of symptoms of depression during the period of recovery (a new episode) Sources: Guidelines for Adolescent Depression in Primary Care (GLAD-PC) (2018) http://pediatrics.aappublications.org/content/141/3/e20174081 Guidelines for adolescent depression in primary care (GLAD-PC): II. Treatment and ongoing management http://pediatrics.aappublications.org/content/141/3/e20174082 Recommendations supporting depression outcomes and duration of treatment according to GLAD-PC: Guidelines for Adolescent Depression in Primary Care (GLAD-PC) (2018) http://pediatrics.aappublications.org/content/141/3/e20174081 Guidelines for adolescent depression in primary care (GLAD-PC): II. Treatment and ongoing management http://pediatrics.aappublications.org/content/141/3/e20174082

	Recommendations supporting depression outcomes and duration of treatment according to GLAD-PC:
Definition	Completed PHQ-9 or PHQ-9M - The patient must answer ALL nine questions for the score to be valid.
Guidance	If a patient has a qualifying diagnosis and encounter in more than one of the four-month periods within the measurement year, the patient must be counted (denominator and numerator) in each qualifying four-month period. For example, a patient could be counted in the first and third four-month periods.
Initial Population	Adolescent patients 12 to 17 years of age and adult patients 18 years of age and older with an office visit and the diagnosis of major depression or dysthymia during the four-month period.
Denominator	Equals Initial Population.
Denominator Exclusions	Patients who died. Patients who received hospice or palliative care services. Patients who were permanent nursing home residents. Patients with a diagnosis of bipolar disorder. Patients with a diagnosis of personality disorder. Patients with a diagnosis of schizophrenia or psychotic disorder. Patients with a diagnosis of pervasive developmental disorder.
Numerator	Adolescent patients 12 to 17 years of age and adult patients 18 years of age and older who have a PHQ-9 or PHQ-9M tool administered at least once during the four-month period.
Numerator Exclusions	Not applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.23.2 Data Entry

Description	The percentage of adolescent patients 12 to 17 years of age and adult patients age 18 and older with the diagnosis of major depression or dysthymia who have a completed PHQ-9 during each applicable four-month period in which there was a qualifying depression encounter

Three calculations for visits during measurement period in 4-month blocks:

- January –April.
- May-August.

- September-December.

For all three, visit age equal or >12 at time of encounter.

- Diagnosis = Depression (Value Set: 2.16.840.113883.3.67.1.101.3.2444).
- Dysthymia (Value Set: 2.16.840.1.113883.3.67.1.101.1.254).

Denominator exclusions:

- Palliative care (Value Set: 2.16.840.1.113883.3.600.1.1579).
- Care in long-term residential facility (Value Set: 2.16.840.1.113883.3.464.1003.101.12.1014).
- Patient expired.
- Pre-existing depression diagnosis at time of encounter.

Numerator:

- PHQ-9 done and reported during 4-month block (Enter in Vital Signs).
- Stratification 1: Age equal or > 12-<18 at time of encounter.
- Stratification 2: Age equal or > 18 at time of encounter.
- Includes telehealth encounters.

3.23.3 Value Sets

- codesystem "LOINC" using "2.16.840.1.113883.6.1 version 2.63"
- code "Patient Health Questionnaire 9 item (PHQ-9) total score [Reported]" using "LOINC version 2.63 Code (44261-6)"
- valueset "Bipolar Disorder" using "2.16.840.1.113883.3.67.1.101.1.128"
- valueset "Care Services in Long-Term Residential Facility" using "2.16.840.1.113883.3.464.1003.101.12.1014"
- valueset "Contact or Office Visit" using "2.16.840.1.113762.1.4.1080.5"
- valueset "Dysthymia" using "2.16.840.1.113883.3.67.1.101.1.254"
- valueset "Ethnicity" using "2.16.840.1.114222.4.11.837"
- valueset "Major Depression Including Remission" using "2.16.840.113883.3.67.1.101.3.2444"
- valueset "ONC Administrative Sex" using "2.16.840.1.113762.1.4.1"
- valueset "Palliative care encounter" using "2.16.840.1.113883.3.600.1.1575"
- valueset "Palliative Care" using "2.16.840.1.113883.3.600.1.1579"
- valueset "Payer" using "2.16.840.1.114222.4.11.3591"
- valueset "Personality Disorder" using "2.16.840.1.113883.3.67.1.101.1.246"

- valueset "Pervasive Developmental Disorder" using "2.16.840.1.113883.3.464.1003.105.12.1152"
- valueset "Race" using "2.16.840.1.114222.4.11.836"
- valueset "Schizophrenia or Psychotic Disorder" using "2.16.840.1.113883.3.464.1003.105.12.1104"
- "Diagnosis: Bipolar Disorder" using (2.16.840.1.113883.3.67.1.101.1.128)"
- "Diagnosis: Dysthymia" using (2.16.840.1.113883.3.67.1.101.1.254)"
- "Diagnosis: Major Depression Including Remission" using (2.16.840.113883.3.67.1.101.3.2444)"
- "Diagnosis: Personality Disorder" using (2.16.840.1.113883.3.67.1.101.1.246)"
- "Diagnosis: Pervasive Developmental Disorder" using "(2.16.840.1.113883.3.464.1003.105.12.1152)"
- "Diagnosis: Schizophrenia or Psychotic Disorder" using "(2.16.840.1.113883.3.464.1003.105.12.1104)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using (2.16.840.1.113883.3.464.1003.101.12.1014)"
- "Encounter, Performed: Contact or Office Visit" using (2.16.840.1.113762.1.4.1080.5)"
- "Encounter, Performed: Palliative care encounter" using (2.16.840.1.113883.3.600.1.1575)"
- “Encounter, Performed: Telehealth Services: 2.16.840.1.113883.3.464.1003.101.12.1031
- "Intervention, Order: Palliative Care" using (2.16.840.1.113883.3.600.1.1579)"
- "Patient Characteristic Ethnicity: Ethnicity" using (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using (2.16.840.1.113762.1.4.1)"
- "Assessment, Performed: Patient Health Questionnaire 9 item (PHQ-9) total score [Reported]" using "Patient Health Questionnaire 9 item (PHQ-9) total score [Reported] (LOINC version 2.63 Code 44261-6)"

3.24 CMS161v10 Adult Major Depressive Disorder: Suicide Risk Assessment

3.24.1 Detail

Description	All patient visits during which a new diagnosis of MDD or a new diagnosis of recurrent MDD was identified for patients aged 18 years and older with a suicide risk assessment completed during the visit
Rationale	This measure aims to improve rates of clinician assessment of suicide risk during an encounter where a new or recurrent episode of major depressive disorder (MDD) is identified. In an epidemiologic study of mental illness in the United States with a large, representative sample, 69% of respondents with lifetime suicide attempts had also met diagnostic criteria for MDD. When considering other mood disorders related to depression, such as dysthymia and bipolar disorders, this rate increases to 74% (Bolton & Robinson, 2010). In a study of individuals who had died by suicide and were enrolled in one of eight major health systems in the United States, individuals with a depressive disorder diagnosis had 7.20 increased odds of dying by suicide within one year, after adjusting for age and sociodemographic factors (Yeh et al., 2019). Suicide is associated with increased use of healthcare services, which provides an opportunity for intervention through assessment and intervention. Individuals who die by suicide are more likely to have any healthcare utilization (Ahmedani et al., 2019) and a higher frequency of healthcare visits than the general population (Chock, Bommersbach, Geske, & Bostwick, 2015). A study of individuals who died by suicide and were enrolled within one of eight health systems in the Mental Health Research Network in the United States found that 50% of these individuals had been seen in a health care setting within four weeks prior to death (Ahmedani et al., 2014). Better assessment and identification of suicide risk in the health care setting should lead to improved connection to treatment and reduction in suicide attempts and deaths by suicide.

Clinical Recommendation Statement	A careful and ongoing evaluation of suicide risk is necessary for all patients with major depressive disorder [I] (American Psychiatric Association, 2010a, reaffirmed 2015). Such an assessment includes specific inquiry about suicidal thoughts, intent, plans, means, and behaviors; identification of specific psychiatric symptoms (e.g., psychosis, severe anxiety, substance use) or general medical conditions that may increase the likelihood of acting on suicidal ideas; assessment of past and, particularly, recent suicidal behavior; delineation of current stressors and potential protective factors (e.g., positive reasons for living, strong social support); and identification of any family history of suicide or mental illness [I] (American Psychiatric Association, 2010a, reaffirmed 2015). As part of the assessment process, impulsivity and potential for risk to others should also be evaluated, including any history of violence or violent or homicidal ideas, plans, or intentions [I] (American Psychiatric Association, 2010a, reaffirmed 2015). The patient's risk of harm to him- or herself and to others should also be monitored as treatment proceeds [I] (American Psychiatric Association, 2010a, reaffirmed 2015). Guidelines for Selecting a Treatment Setting for Patients at Risk for Suicide or Suicidal Behaviors (from American Psychiatric Association's Practice Guideline for Assessment and Treatment of Patients With Suicidal Behaviors, 2010b): Admission generally indicated After a suicide attempt or aborted suicide attempt if: * Patient is psychotic * Attempt was violent, near-lethal, or premeditated * Precautions were taken to avoid rescue or discovery * Persistent plan and/or intent is present * Distress is increased or patient regrets surviving * Patient is male, older than age 45 years, especially with new onset of psychiatric illness or suicidal thinking * Patient has limited family and/or social support, including lack of stable living situation * Current impulsive behavior, severe agitation, poor judgment, or refusal of help is evident * Patient has change in mental status with a metabolic, toxic, infectious, or other etiology requiring further workup in a structured setting In the presence of suicidal ideation with: * Specific plan with high lethality * High suicidal intent Admission may be necessary

	After a suicide attempt or aborted suicide attempt, except in circumstances for which admission is generally indicated In the presence of suicidal ideation with: * Psychosis * Major psychiatric disorder * Past attempts, particularly if medically serious * Possibly contributing medical condition (e.g., acute neurological disorder, cancer, infection) * Lack of response to or inability to cooperate with partial hospital or outpatient treatment * Need for supervised setting for medication trial or ECT * Need for skilled observation, clinical tests, or diagnostic assessments that require a structured setting * Limited family and/or social support, including lack of stable living situation * Lack of an ongoing clinician-patient relationship or lack of access to timely outpatient follow-up * Evidence of putting one's affairs in order (e.g., giving away possessions, writing a will) In the absence of suicide attempts or reported suicidal ideation/plan/intent but evidence from the psychiatric evaluation and/or history from others suggests a high level of suicide risk and a recent acute increase in risk Release from emergency department with follow-up recommendations may be possible After a suicide attempt or in the presence of suicidal ideation/plan when: * Suicidality is a reaction to precipitating events (e.g., exam failure, relationship difficulties), particularly if the patient's view of situation has changed since coming to emergency department * Plan/method and intent have low lethality * Patient has stable and supportive living situation * Patient is able to cooperate with recommendations for follow-up, with treater contacted, if possible, if patient is currently in treatment Outpatient treatment may be more beneficial than hospitalization Patient has chronic suicidal ideation and/or self-injury without prior medically serious attempts, if a safe and supportive living situation is available and outpatient psychiatric care is ongoing.

Definition	The specific type and magnitude of the suicide risk assessment is intended to be at the discretion of the individual clinician and should be specific to the needs of the patient. At a minimum, suicide risk assessment should evaluate: 1) Suicidal ideation 2) Patient's intent of initiating a suicide attempt AND, if either is present, 3) Patient plans for a suicide attempt 4) Whether the patient has means for completing suicide Low burden tools to track suicidal ideation and behavior such as the Columbia-Suicide Severity Rating Scale (C-SSRS) and the Suicide Assessment Five-Step Evaluation and Triage (SAFE-T) can also be used. Because no validated assessment tool or instrument fully meets the aforementioned requirements for the suicide risk assessment, individual tools or instruments have not been explicitly included in coding.

Guidance	This eCQM is an episode-based measure and should be reported for each instance of a new or recurrent episode of major depressive disorder (MDD) during the measurement period. This measure should be reported for each eligible encounter during which a new or recurrent episode of MDD is identified. As the guidelines state, it is important to assess for additional factors which may increase or decrease suicide risk, such as presence of additional symptoms (e.g., psychosis, severe anxiety, hopelessness, severe chronic pain); presence of substance abuse, history and seriousness of previous attempts, particularly, recent suicidal behavior, current stressors and potential protective factors (e.g., positive reasons for living, strong social support), family history of suicide or mental illness or recent exposure to suicide, impulsivity and potential for risk to others, including history of violence or violent or homicidal ideas, plans, or intentions, and putting one's affairs in order (e.g., giving away possessions, writing a will). In addition, although the measure focuses on the initial visit, it is critical that suicide risk be monitored especially for the 90 days following the initial visit and throughout MDD treatment. It is expected that a suicide risk assessment will be completed at the visit during which a new diagnosis is made or at the visit during which a recurrent episode is first identified (i.e., at the initial evaluation). For the purposes of this measure, an episode of major depressive disorder (MDD) would be considered to be recurrent if a patient has not had an MDD-related encounter in the past 105 days. If there is a gap of 105 or more days between visits for major depressive disorder (MDD), that would imply a recurrent episode. The 105-day look-back period is an operational provision and not a clinical recommendation, or definition of relapse, remission, or recurrence. In recognition of the growing use of integrated and team-based care, the diagnosis of depression and the assessment for suicide risk need not be performed by the same provider or clinician. Suicide risk assessments completed via telehealth services can also meet numerator performance. Use of a standardized tool(s) or instrument(s) to assess suicide risk will meet numerator performance. Standardized tools can be mapped to the concept "Intervention, Performed": "Suicide risk assessment (procedure)" included in the numerator logic below. The logic statement for the age requirement, as written, captures patients who turn 18 years old during the measurement period so that these patients are included in the measure, so long as the minimum criteria noted above is evaluated. To ensure all patients with major depressive disorder (MDD) are assessed for suicide risk, there are two clinical quality measures addressing suicide risk assessment; CMS 177.
Initial Population	Patient visits during which a new diagnosis of MDD, single or recurrent episode, was identified
Denominator	Equals Initial Population.
Denominator Exclusions	None.

Numerator	Patient visits during which a new diagnosis of MDD, single or recurrent episode, was identified and a suicide risk assessment was completed during the visit
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.
Initial Population	All patients aged 18 years and older with a diagnosis of MDD.
Denominator	Equals Initial Population.
Denominator Exclusions	None.
Numerator	Patients with a suicide risk assessment completed during the visit in which a new diagnosis or recurrent episode was identified.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.24.2 Data Entry

Description	Percentage of patients aged 18 years and older with a diagnosis of MDD with a suicide risk assessment completed during the visit in which a new diagnosis or recurrent episode was identified.

Encounter, patient age 18 or older.

- Multiple encounter codes accepted:
  - ER Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1010).
  - Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
  - Outpatient Consultation (Value Set 2.16.840.1.113883.3.464.1003.101.12.1008).
  - Psych Visit - Diagnostic Evaluation (Value Set 2.16.840.1.113883.3.526.3.1492).
  - Psych Visit – Psychotherapy (Value Set 2.16.840.1.113883.3.526.3.1496).
  - Psychoanalysis (Value Set 2.16.840.1.113883.3.526.3.1141).
  - Telehealth Services 2.16.840.1.113883.3.464.1003.101.12.1031

See Appendix A for information on using Value Sets.

- New diagnosis of either of the following:
  - Depression (Value Set: 2.16.840.1.113883.3.526.3.1491).
  - Recurrent episode (defined as > 105 days before current diagnosis).

Numerator: Suicide Risk Assessment performed and recorded (Enter in Exams).

3.24.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Suicide risk assessment (procedure)" ("SNOMEDCT Code (225337009)")
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Major Depressive Disorder-Active" (2.16.840.1.113883.3.526.3.1491)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Psych Visit - Diagnostic Evaluation" (2.16.840.1.113883.3.526.3.1492)
- valueset "Psych Visit - Psychotherapy" (2.16.840.1.113883.3.526.3.1496)
- valueset "Psychoanalysis" (2.16.840.1.113883.3.526.3.1141)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telehealth Services" (2.16.840.1.113883.3.464.1003.101.12.1031)

3.24.4 Data Criteria (QDM Data Elements)

- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Psych Visit - Diagnostic Evaluation" using "Psych Visit - Diagnostic Evaluation (2.16.840.1.113883.3.526.3.1492)"
- "Encounter, Performed: Psych Visit - Psychotherapy" using "Psych Visit - Psychotherapy (2.16.840.1.113883.3.526.3.1496)"

- "Encounter, Performed: Psychoanalysis" using "Psychoanalysis (2.16.840.1.113883.3.526.3.1141)"
- "Encounter, Performed: Telehealth Services" using "Telehealth Services (2.16.840.1.113883.3.464.1003.101.12.1031)"
- "Intervention, Performed: Suicide risk assessment (procedure)" using "Suicide risk assessment (procedure) (SNOMEDCT Code 225337009)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.25 CMS165v10 Controlling High Blood Pressure

3.25.1 Detail

Description	Percentage of patients 18-85 years of age who had a diagnosis of essential hypertension starting before and continuing into, or starting during the first six months of the measurement period, and whose most recent blood pressure was adequately controlled (<140/90mmHg) during the measurement period

Rationale	High blood pressure (HBP), also known as hypertension, is when the pressure in blood vessels is higher than normal (Centers for Disease Control and Prevention [CDC], 2016). The causes of hypertension are multiple and multifaceted and can be based on genetic predisposition, environmental risk factors, being overweight and obese, sodium intake, potassium intake, physical activity, and alcohol use. High Blood Pressure is common, according to the National Health and Nutrition Examination Survey (NHANES), approximately 85.7 million adults >= 20 years of age had HBP (140/90 mm Hg) between 2011 to 2014 (Crim, 2012). Between 2011-2014 the prevalence of hypertension (>=140/90 mm Hg) among US adults 60 and older was approximately 67.2 percent (Benjamin et al., 2017). HBP, known as the “silent killer,” increases risks of heart disease and stroke which are two of the leading causes of death in the U.S. (Yoon, Fryar, & Carroll, 2015). A person who has HBP is four times more likely to die from a stroke and three times more likely to die from heart disease (CDC, 2012) The National Vital Statistics Systems Center for Disease Control and Prevention reported that in 2014 there were approximately 73,300 deaths directly due to HBP and 410,624 deaths with any mention of HBP (CDC, 20145).Between 2004 and 2014 the number of deaths due to HBP rose by 34.1 percent (Benjamin et al., 2017). Managing and treating HBP would reduce cardiovascular disease mortality for males and females by 30.4 percent and 38.0 percent, respectively (Patel et al., 2015). The estimated annual average direct and indirect cost of HBP from 2012 to 2013 was $51.2 billion (Benjamin et al., 2017). Total direct costs of HBP is projected to increase to $200 billion by 2030 (Benjamin et al., 2017). A study on cost-effectiveness on treating hypertension found that controlling HBP in patients with cardiovascular disease and systolic blood pressures of >=160 mm Hg could be effective and cost-saving (Moran et al., 2015). Many studies have shown that controlling high blood pressure reduces cardiovascular events and mortality. The Systolic Blood Pressure Intervention Trial (SPRINT) investigated the impact of obtaining a SBP goal of <120 mm Hg compared to a SBP goal of <140 mm Hg among patients 50 and older with established cardiovascular disease and found that the patients with the former goal had reduced cardiovascular events and mortality (SPRINT Research Group et al., 2015). Controlling HBP will significantly reduce the risks of cardiovascular disease mortality and lead to better health outcomes like reduction of heart attacks, stroke, and kidney disease (James et al., 2014). Thus, the relationship between the measure (control of hypertension) and the long-term clinical outcomes listed is well established.

Clinical Recommendation Statement	The U.S. Preventive Services Task Force (2015) recommends screening for high blood pressure in adults age 18 years and older. This is a grade A recommendation. American College of Cardiology/American Heart Association (2017) – For adults with confirmed hypertension and known CVD or 10-year ASCVD event risk of 10% or higher, a blood pressure target of less than 130/80 mmHg is recommended (Level of evidence: B-R (for systolic blood pressures), Level of evidence: C-EO (for diastolic blood pressure)) – For adults with confirmed hypertension, without additional markers of increased CVD risk, a blood pressure target of less than 130/80 mmHg may be reasonable (Note: clinical trial evidence is strongest for a target blood pressure of 140/90 mmHg in this population. However, observational studies suggest that these individuals often have a high lifetime risk and would benefit from blood pressure control earlier in life) (Level of evidence: B-NR (for systolic blood pressure), Level of evidence: C-EO (for diastolic blood pressure)) American College of Physicians and the American Academy of Family Physicians (2017): – Initiate or intensify pharmacologic treatment in some adults aged 60 years or older at high cardiovascular risk, based on individualized assessment, to achieve a target systolic blood pressure of less than 140 mmHg (Grade: weak recommendation, Quality of evidence: low) – Initiate or intensify pharmacologic treatment in adults aged 60 years or older with a history of stroke or transient ischemic attack to achieve a target systolic blood pressure of less than 140 mmHg to reduce the risk of recurrent stroke (Grade: weak recommendation, Quality of evidence: moderate) American Diabetes Association (2019): – For individuals with diabetes and hypertension at higher cardiovascular risk (existing atherosclerotic cardiovascular disease or 10-year atherosclerotic cardiovascular disease risk >15%), a blood pressure target of <130/80 mmHg may be appropriate, if it can be safely attained (Level of evidence: C)-For individuals with diabetes and hypertension at lower risk for cardiovascular disease (10-year atherosclerotic cardiovascular disease risk <15%), treat to a blood pressure target of <140/90 mmHg (Level of evidence: A)

Guidance	In reference to the numerator element, only blood pressure readings performed by a clinician, or a remote monitoring device are acceptable for numerator compliance with this measure. This includes blood pressures taken in person by a clinician and blood pressures measured remotely by electronic monitoring devices capable of transmitting the blood pressure data to the clinician. Blood pressure readings taken by a remote monitoring device and conveyed by the patient to the clinician are also acceptable. It is the clinician's responsibility and discretion to confirm the remote monitoring device used to obtain the blood pressure is considered acceptable and reliable and whether the blood pressure reading is considered accurate before documenting it in the patient's medical record. Do not include BP readings: – Taken during an acute inpatient stay or an ED visit – Taken on the same day as a diagnostic test or diagnostic or therapeutic procedure that requires a change in diet or change in medication on or one day before the day of the test or procedure, with the exception of fasting blood tests. – Taken by the patient using a non-digital device such as with a manual blood pressure cuff and a stethoscope. If no blood pressure is recorded during the measurement period, the patient's blood pressure is assumed "not controlled." If there are multiple blood pressure readings on the same day, use the lowest systolic and the lowest diastolic reading as the most recent blood pressure reading.
Initial Population	Patients 18-85 years of age who had a visit and diagnosis of essential hypertension starting before and continuing into or starting during the first six months of the measurement period.
Denominator	Equals Initial Population.
Denominator Exclusions	Patients with evidence of end stage renal disease (ESRD), dialysis or renal transplant before or during the measurement period. Also exclude patients with a diagnosis of pregnancy during the measurement period. Exclude patients who are in hospice care for any part of the measurement period. Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period. Exclude patients 66 and older with an indication of frailty for any part of the measurement period who meet any of the following criteria - Advanced illness with two outpatient encounters during the measurement period or the year prior - OR advanced illness with one inpatient encounter during the measurement period or the year prior - OR taking dementia medications during the measurement period or the year prior Exclude patients 81 and older with an indication of frailty for any part of the measurement period. Exclude patients receiving palliative care during the measurement period.

Numerator	Patients whose most recent blood pressure is adequately controlled (systolic blood pressure < 140 mmHg and diastolic blood pressure < 90 mmHg) during the measurement period
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.25.2 Data Entry

Description	Percentage of patients 18-85 years of age who had a diagnosis of essential hypertension starting before and continuing into, or starting during the first six months of the measurement period, and whose most recent blood pressure was adequately controlled (<140/90mmHg) during the measurement period

Visit or inpatient admission, age equal or greater than 18 and less than 85 at start of measurement period.

Diagnosis (on IPL) of Essential Hypertension
(Value Set: 2.16.840.1.113883.3.464.1003.104.12.1011) at start or within 6 months of start of measurement period.

"Qualifying encounter:"

- Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240).
- Encounter Inpatient (2.16.840.1.113883.3.666.5.307).
- ESRD Monthly Outpatient Services (2.16.840.1.113883.3.464.1003.109.12.1014).
- Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016).
- Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001).
- Preventive Care Services (2.16.840.1.113883.3.464.1003.101.12.1023, ….1025).
- Nursing facility visit
- Services in Long-term residential facility

Denominator Exclusions:

- Hospice order/intervention or hospital discharge to hospice during measurement period: (Value Set: 2.16.840.1.113762.1.4.1108.15). Inpatient hospice discharge entered by Coding. Outpatient entered on IPL/TREG:

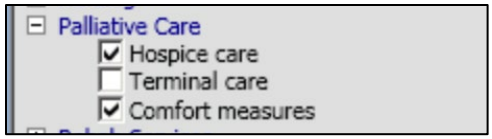


Figure 3-37: Palliative Care list

- Pregnancy dx during measurement period
  (Value Set: 2.16.840.1.113883.3.526.3.378)
- End stage renal disease during measurement period
  (Value Set: 2.16.840.1.113883.3.526.3.353).
- Chronic kidney disease (stage 5) or kidney transplant recipient overlaps measurement period (Value Set: 2.16.840.1.113883.3.526.3.1002),
  (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1029).
- Kidney transplant, dialysis services
  (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1013).
- Vascular access for dialysis
  (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1011) overlaps measurement period.
- ESRD Monthly Outpatient Services
  (Value Set: 2.16.840.1.113883.3.464.1003.109.12.1014) starts before end of measurement period.

Numerator: Last PE during measurement period BOTH diastolic BP < 90 AND systolic BP <140.

3.25.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Diastolic blood pressure" ("LOINC Code (8462-4)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" ("LOINC Code (71007-9)")
- code "Systolic blood pressure" ("LOINC Code (8480-6)")
- valueset "Acute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1083)
- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1003.110.12.1082)
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)

- valueset "Care Services in Long-Term Residential Facility" (2.16.840.1.113883.3.464.1003.101.12.1014)
- valueset "Chronic Kidney Disease, Stage 5" (2.16.840.1.113883.3.526.3.1002)
- valueset "Dementia Medications" (2.16.840.1.113883.3.464.1003.196.12.1510)
- valueset "Dialysis Services" (2.16.840.1.113883.3.464.1003.109.12.1013)
- valueset "Emergency Department Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "End Stage Renal Disease" (2.16.840.1.113883.3.526.3.353)
- valueset "ESRD Monthly Outpatient Services" (2.16.840.1.113883.3.464.1003.109.12.1014)
- valueset "Essential Hypertension" (2.16.840.1.113883.3.464.1003.104.12.1011)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Frailty Device" (2.16.840.1.113883.3.464.1003.118.12.1300)
- valueset "Frailty Diagnosis" (2.16.840.1.113883.3.464.1003.113.12.1074)
- valueset "Frailty Encounter" (2.16.840.1.113883.3.464.1003.101.12.1088)
- valueset "Frailty Symptom" (2.16.840.1.113883.3.464.1003.113.12.1075)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice care ambulatory" (2.16.840.1.113762.1.4.1108.15)
- valueset "Kidney Transplant" (2.16.840.1.113883.3.464.1003.109.12.1012)
- valueset "Kidney Transplant Recipient" (2.16.840.1.113883.3.464.1003.109.12.1029)
- valueset "Nonacute Inpatient" (2.16.840.1.113883.3.464.1003.101.12.1084)
- valueset "Nursing Facility Visit" (2.16.840.1.113883.3.464.1003.101.12.1012)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- valueset "Palliative Care Encounter" (2.16.840.1.113883.3.464.1003.101.12.1090)
- valueset "Palliative Care Intervention" (2.16.840.1.113883.3.464.1003.198.12.1135)

- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pregnancy" (2.16.840.1.113883.3.526.3.378)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)

3.25.4 Data Criteria (QDM Data Elements)

- "Assessment, Performed: Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal)" using "Functional Assessment of Chronic Illness Therapy - Palliative Care Questionnaire (FACIT-Pal) (LOINC Code 71007-9)"
- "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300)"
- "Diagnosis: Chronic Kidney Disease, Stage 5" using "Chronic Kidney Disease, Stage 5 (2.16.840.1.113883.3.526.3.1002)"
- "Diagnosis: End Stage Renal Disease" using "End Stage Renal Disease (2.16.840.1.113883.3.526.3.353)"
- "Diagnosis: Essential Hypertension" using "Essential Hypertension (2.16.840.1.113883.3.464.1003.104.12.1011)"
- "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074)"
- "Diagnosis: Kidney Transplant Recipient" using "Kidney Transplant Recipient (2.16.840.1.113883.3.464.1003.109.12.1029)"
- "Diagnosis: Pregnancy" using "Pregnancy (2.16.840.1.113883.3.526.3.378)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility" using "Care Services in Long-Term Residential Facility (2.16.840.1.113883.3.464.1003.101.12.1014)"

- "Encounter, Performed: Emergency Department Visit" using "Emergency Department Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: ESRD Monthly Outpatient Services" using "ESRD Monthly Outpatient Services (2.16.840.1.113883.3.464.1003.109.12.1014)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1003.101.12.1088)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084)"
- "Encounter, Performed: Nursing Facility Visit" using "Nursing Facility Visit (2.16.840.1.113883.3.464.1003.101.12.1012)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087)"
- "Encounter, Performed: Palliative Care Encounter" using "Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory (2.16.840.1.113762.1.4.1108.15)"

- "Intervention, Performed: Palliative Care Intervention" using "Palliative Care Intervention (2.16.840.1.113883.3.464.1003.198.12.1135)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1003.196.12.1510)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Physical Exam, Performed: Diastolic blood pressure" using "Diastolic blood pressure (LOINC Code 8462-4)"
- "Physical Exam, Performed: Systolic blood pressure" using "Systolic blood pressure (LOINC Code 8480-6)"
- "Procedure, Performed: Dialysis Services" using "Dialysis Services (2.16.840.1.113883.3.464.1003.109.12.1013)"
- "Procedure, Performed: Kidney Transplant" using "Kidney Transplant (2.16.840.1.113883.3.464.1003.109.12.1012)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"

3.26 CMS177v10 Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment

3.26.1 Detail

Description	Percentage of patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder with an assessment for suicide risk.

Rationale	Research has shown that youth with major depressive disorder are at a high risk for suicide attempts and completion - among the most significant and devastating sequelae of the disease (Fontanella et al., 2020). Suicide risk is a critical consideration in children and adolescents with MDD and an important aspect of care that should be assessed at each visit and subsequently managed to minimize that risk. Additionally, the importance of the assessments is underscored by research (Fontanella et al., 2020; Luoma, Martin, & Pearson, 2002) that indicates that many individuals who die by suicide do make contact with primary care providers and mental health services beforehand. More specifically, approximately 15% of suicide victims aged 35 years or younger had seen a mental health professional within 1 month of suicide while approximately 23% had seen a primary care provider within 1 month of suicide (Luoma, Martin, & Pearson, 2002). Better assessment and identification of suicide risk in the health care setting should lead to improved connection to treatment and reduction in suicide attempts and deaths by suicide.
Clinical Recommendation Statement	The evaluation must include assessment for the presence of harm to self or others (MS) (American Academy of Child and Adolescent Psychiatry, 2007). Suicidal behavior exists along a continuum from passive thoughts of death to a clearly developed plan and intent to carry out that plan. Because depression is closely associated with suicidal thoughts and behavior, it is imperative to evaluate these symptoms at the initial and subsequent assessments. For this purpose, low burden tools to track suicidal ideation and behavior such as the Columbia-Suicidal Severity Rating Scale can be used. Also, it is crucial to evaluate the risk (e.g., age, sex, stressors, comorbid conditions, hopelessness, impulsivity) and protective factors (e.g., religious belief, concern not to hurt family) that might influence the desire to attempt suicide. The risk for suicidal behavior increases if there is a history of suicide attempts, comorbid psychiatric disorders (e.g., disruptive disorders, substance abuse), impulsivity and aggression, availability of lethal agents (e.g., firearms), exposure to negative events (e.g., physical or sexual abuse, violence), and a family history of suicidal behavior (American Academy of Child and Adolescent Psychiatry, 2007). A careful and ongoing evaluation of suicide risk is necessary for all patients with major depressive disorder (Category I). Such an assessment includes specific inquiry about suicidal thoughts, intent, plans, means, and behaviors; identification of specific psychiatric symptoms (e.g., psychosis, severe anxiety, substance use) or general medical conditions that may increase the likelihood of acting on suicidal ideas; assessment of past and, particularly, recent suicidal behavior; delineation of current stressors and potential protective factors (e.g., positive reasons for living, strong social support); and identification of any family history of suicide or mental illness (Category I) (American Psychiatric Association, 2010, reaffirmed 2015).

Definition	Numerator Definition: The specific type and magnitude of the suicide risk assessment is intended to be at the discretion of the individual clinician and should be specific to the needs of the patient. At a minimum, suicide risk assessment should evaluate: 1. Risk (e.g., age, sex, stressors, comorbid conditions, hopelessness, impulsivity) and protective factors (e.g., religious belief, concern not to hurt family) that may influence the desire to attempt suicide. 2. Current severity of suicidality. 3. Most severe point of suicidality in episode and lifetime. Low burden tools to track suicidal ideation and behavior such as the Columbia-Suicidal Severity Rating Scale can also be used. Because no validated assessment tool or instrument fully meets the aforementioned requirements for the suicide risk assessment, individual tools or instruments have not been explicitly included in coding.
Guidance	This eCQM is an episode-based measure. A suicide risk assessment should be performed at every visit for major depressive disorder during the measurement period. In recognition of the growing use of integrated and team-based care, the diagnosis of depression and the assessment for suicide risk need not be performed by the same provider or clinician. Suicide risk assessments completed via telehealth services can also meet numerator performance. This measure is an episode-of-care measure; the level of analysis for this measure is every visit for major depressive disorder during the measurement period. For example, at every visit for MDD, the patient should have a suicide risk assessment. Use of a standardized tool(s) or instrument(s) to assess suicide risk will meet numerator performance, so long as the minimum criteria noted above is evaluated. Standardized tools can be mapped to the concept "Intervention, Performed": "Suicide risk assessment (procedure)" included in the numerator logic below, as no individual suicide risk assessment tool or instrument would satisfy the requirements alone.
Initial Population	All patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder.
Denominator	Equals Initial Population.
Denominator Exclusions	None.
Numerator	Patient visits with an assessment for suicide risk.
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.

Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.26.2 Data Entry

Description	Percentage of patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder with an assessment for suicide risk.

Create qualifying encounter; denominator is total number of visits during measurement period:

- Age equal or > 6 and equal or <17 at start of measurement period.
- Diagnosis = major depressive disorder (Value Set: 2.16.840.1.113883.3.526.3.1491).

Encounters include:

- Office visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001).
- Group Psychotherapy (Value Set 2.16.840.1.113883.3.526.3.1187).
- Psych Visit - Diagnostic Evaluation (Value Set 2.16.840.1.113883.3.526.3.1492).
- Psych Visit - Family Psychotherapy (Value Set2.16.840.1.113883.3.526.3.1018).
- Psych Visit - Psychotherapy (Value Set 2.16.840.1.113883.3.526.3.1496).
- Psychoanalysis (Value Set 2.16.840.1.113883.3.526.3.1141).
- Outpatient consultation (Value Set 2.16.840.1.113883.3.464.1003.101.12.1008).
- Telehealth Visit 2.16.840.1.113883.3.464.1003.101.12.1031

See Appendix A for information on using Value Sets.

- “Major depressive disorder diagnoses” include 74 codes (Value Set: 2.16.840.1.113883.3.526.3.1491)

Numerator: Suicide risk assessment at every visit for a major depressive diagnosis during measurement period (if multiple visits, the numerator is total number with suicide risk assessed and documented) (Enter in Exams at every visit).

3.26.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Suicide risk assessment (procedure)" ("SNOMEDCT Code (225337009)")
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Group Psychotherapy" (2.16.840.1.113883.3.526.3.1187)

- valueset "Major Depressive Disorder-Active" (2.16.840.1.113883.3.526.3.1491)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Psych Visit - Diagnostic Evaluation" (2.16.840.1.113883.3.526.3.1492)
- valueset "Psych Visit - Family Psychotherapy" (2.16.840.1.113883.3.526.3.1018)
- valueset "Psych Visit - Psychotherapy" (2.16.840.1.113883.3.526.3.1496)
- valueset "Psychoanalysis" (2.16.840.1.113883.3.526.3.1141)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telehealth Services" (2.16.840.1.113883.3.464.1003.101.12.1031)

3.26.4 Data Criteria (QDM Data Elements)

- "Encounter, Performed: Group Psychotherapy" using "Group Psychotherapy (2.16.840.1.113883.3.526.3.1187)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Psych Visit - Diagnostic Evaluation" using "Psych Visit - Diagnostic Evaluation (2.16.840.1.113883.3.526.3.1492)"
- "Encounter, Performed: Psych Visit - Family Psychotherapy" using "Psych Visit - Family Psychotherapy (2.16.840.1.113883.3.526.3.1018)"
- "Encounter, Performed: Psych Visit - Psychotherapy" using "Psych Visit - Psychotherapy (2.16.840.1.113883.3.526.3.1496)"
- "Encounter, Performed: Psychoanalysis" using "Psychoanalysis (2.16.840.1.113883.3.526.3.1141)"
- "Encounter, Performed: Telehealth Services" using "Telehealth Services (2.16.840.1.113883.3.464.1003.101.12.1031)"
- "Intervention, Performed: Suicide risk assessment (procedure)" using "Suicide risk assessment (procedure) (SNOMEDCT Code 225337009)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

3.27 CMS347v4 Statin Therapy for the Prevention and Treatment of Cardiovascular Disease

3.27.1 Detail

Description	Percentage of the following patients - all considered at high risk of cardiovascular events - who were prescribed or were on statin therapy during the measurement period: • All patients who were previously diagnosed with or currently have an active diagnosis of clinical atherosclerotic cardiovascular disease (ASCVD), including an ASCVD procedure, OR • Patients aged >= 20 years who have ever had a low-density lipoprotein cholesterol (LDL-C) level >= 190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial hypercholesterolemia; OR • Patients aged 40-75 years with a diagnosis of diabetes.
Rate Aggregation	This measure is intended to have one reporting rate, which aggregates the following populations into a single performance rate for reporting purposes: Population 1: All patients who were previously diagnosed with or currently have an active diagnosis of clinical ASCVD, including an ASCVD procedure, before the end of the measurement period. Population 2: Patients aged >= 20 years at the beginning of the measurement period who have ever had a laboratory test result of LDL-C >= 190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial hypercholesterolemia. Population 3: Patients aged 40 to 75 years at the beginning of the measurement period with an active diagnosis of Type 1 or Type 2 diabetes at any time during the measurement period. For the purposes of this measure, a single performance rate can be calculated as follows: Performance Rate = (Numerator 1 + Numerator 2 +Numerator 3)/ [(Denominator 1 - Denominator Exclusions 1- Denominator Exceptions 1) + (Denominator 2 - Denominator Exclusions 2 - Denominator Exceptions 2) +(Denominator 3 - Denominator Exclusions 3 - Denominator Exceptions 3)]

Rationale	"Cardiovascular disease (CVD) is the leading cause of death in the United States, causing approximately 1 of every 3 deaths in the United States in 2015. In 2015, stroke caused approximately 1 of every 19 deaths in the United States and the estimated annual costs for CVD and stroke were $329.7 billion, including $199.2 billion in direct costs (hospital services, physicians and other professionals, prescribed medications, home health care, and other medical durables) and $130.5 billion in indirect costs from lost future productivity (cardiovascular and stroke premature deaths). CVD costs more than any other diagnostic group" (Benjamin et al., 2018). Data collected between 2011 and 2014 indicates that more than 94.6 million U.S. adults, 20 years or older, had total cholesterol levels equal to 200 mg/dL or more, while almost 28.5 million had levels 240 mg/dL or more (Benjamin et al., 2018). Elevated blood cholesterol is a major risk factor for CVD and statin therapy has been associated with a reduced risk of CVD. Numerous randomized trials have demonstrated that treatment with a statin reduces LDL-C and reduces the risk of major cardiovascular events by approximately 20 percent (Ference, 2015). In 2018, updated guidelines on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults were published (see Grundy et al., 2019). This guideline was published by an Expert Panel, which synthesized evidence from randomized controlled trials to identify people most likely to benefit from cholesterol-lowering therapy. The American College of Cardiology (ACC)/American Heart Association (AHA)/Multi-society (MS) Guideline recommendations are intended to provide a strong evidence-based foundation for the treatment of blood cholesterol for the primary and secondary prevention and treatment of ASCVD in patients of all ages. The document concludes that the addition of statin therapy reduces the risk of ASCVD among high-risk individuals, defined as follows: individuals with clinical ASCVD, with LDL-C >= 190 mg/dL, or with diabetes (Grundy et al., 2019). One study surveying U.S. cardiology, primary care, and endocrinology practices found that 1 in 4 guideline-eligible patients were not on a statin and less than half were on the recommended statin intensity. Untreated and undertreated patients had significantly higher LDL-C levels than those receiving guideline-directed statin treatment (Navar et al., 2017). In a follow-up study authored by Nanna et al., the same clinics were divided into tertiles based on the percentage of patients with guideline-recommended statin use. The researchers found that patients in the high-tertile clinics were more likely to achieve target LDL-C levels than patients at the low- or mid-tertile clinics, and this held true when patients were stratified by primary and secondary prevention (Nanna et al., 2019a). Research also indicates that certain populations are far less likely to receive guideline-recommended statin therapy than others. A retrospective study of the National Health and Nutrition Examination Survey found that Black and Hispanic race or ethnicity, low income, lack of health insurance coverage, poor health care access, young age, and female gender are predictors of lower statin utilization (Gu et al., 2018). In particular, there is extensive evidence that women are far less likely than men to be prescribed guideline-recommended statin therapy (Zhang et al., 2016; Nanna et al., 2019b), despite research showing that female patients with cardiovascular disease derive the same or greater benefit from statin therapy as male patients with cardiovascular disease (Puri et al., 2014).

	The Statin Safety Expert Panel that participated in a National Lipid Association (NLA) Statin Safety Task Force meeting in October 2013 reaffirms the general safety of statin therapy. Ultimately, the panel members concluded that for most patients requiring statin therapy, the potential benefits of statin therapy outweigh the potential risks. In general terms, the benefits of statins to prevent non-fatal myocardial infarction, revascularization, stroke, and CVD mortality, far outweigh any potential harm related to the drug (Jacobson, 2014).
Clinical Recommendation Statement	This electronic clinical quality measure is intended to align with the the 2018 ACC/AHA/MS Guideline on the Management of Blood Cholesterol (Stone et al., 2014), which indicates the use of statins as the first line of cholesterol-lowering medication therapy to lower the risk of ASCVD among at-risk populations. Recommendations for Management of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults - Statin Treatment: Secondary Prevention: 1. In patients who are 75 years of age or younger with clinical ASCVD, high-intensity statin therapy should be initiated or continued with the aim of achieving a 50% or greater reduction in LDL-C levels (Class I Recommendation), (Grundy et al., 2019). 2. In patients with clinical ASCVD in whom high-intensity statin therapy is contraindicated or who experience statin-associated side effects, moderate-intensity statin therapy should be initiated or continued with the aim of achieving a 30% to 49% reduction in LDL-C levels (Class I Recommendation), (Grundy et al., 2019). 3. In patients older than 75 years of age with clinical ASCVD, it is reasonable to initiate moderate- or high-intensity statin therapy after evaluation of the potential for ASCVD risk reduction, adverse effects, and drug–drug interactions, as well as patient frailty and patient preferences (Class IIa Recommendation), (Grundy et al., 2019). Primary Prevention 1. In patients 20 to 75 years of age with an LDL-C level of 190 mg/dL or higher (>= 4.9 mmol/L), maximally tolerated statin therapy is recommended. (Class I Recommendation), (Grundy et al., 2019). 2. In adults 40 to 75 years of age with diabetes mellitus, regardless of estimated 10-year ASCVD risk, moderate-intensity statin therapy is indicated (Class I Recommendation), (Grundy et al., 2019). Statin Safety and Statin-Associated Side Effects A clinician–patient risk discussion is recommended before initiation of statin therapy to review net clinical benefit, weighing the potential for ASCVD risk reduction against the potential for statin-associated side effects, statin–drug interactions, and safety, while emphasizing that side effects can be addressed successfully (Class I Recommendation), (Grundy et al., 2019).

Definition	Clinical atherosclerotic cardiovascular disease (ASCVD) includes: • Acute coronary syndromes • History of myocardial infarction • Stable or unstable angina • Coronary or other arterial revascularization • Stroke or transient ischemic attack (TIA) • Peripheral arterial disease of atherosclerotic origin Lipoprotein density cholesterol (LDL-C) result: • A fasting or non-fasting LDL-C laboratory test performed and direct or calculated test result documented in the medical record. When both direct and calculated test results are available on the same day, the direct LDL-C test result should be used. Statin therapy: • Administration of one or more of a group of medications that are used to lower plasma lipoprotein levels in the treatment of hyperlipoproteinemia. Statin Medication Therapy List (NOTE: List does NOT include dosage): [Generic name] (Brand or trade name) and (-) Medication type, if applicable: [Atorvastatin] (Lipitor) - Statin [Fluvastatin] (Lescol XL or Lescol) - Statin [Lovastatin (Mevinolin)](Mevacor or Altoprev) -Statin [Pitavastatin] (Livalo or Zypitamag or Nikita) - Statin [Pravastatin Sodium] (Pravachol) - Statin [Rosuvastatin Calcium] (Crestor) - Statin [Simvastatin] (Zocor) - Statin [Amlodipine Besylate/Atorvastatin Calcium] (Caduet) – Fixed Dose Combination [Ezetimibe/Simvastatin] (Vytorin) – Fixed Dose Combination Statin-Associated Muscle Symptoms (SAMS) – The 2018 ACC/AHA/MS Guideline (Grundy et al., 2019) includes the following SAMS: myalgias, myositis, myopathy, or statin-associated autoimmune myopathy. Patients who experience significant or repeated statin-associated muscle symptoms may prefer not to take or continue statin therapy and therefore may be removed from the denominator.

Guidance	Initial Population Guidance: The initial population covers three distinct populations. Use the following process to prevent counting patients more than once. Initial Population 1: All patients who were previously diagnosed with or currently have an active diagnosis of clinical ASCVD, including an ASCVD procedure, before the end of the measurement period – If YES, meets Initial Population 1 risk category – If NO, screen for next risk category Initial Population 2: Patients aged >= 20 years at the beginning of the measurement period who have ever had a laboratory test result of LDL-C >= 190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial hypercholesterolemia – If YES, meets Initial Population 2 risk category – If NO, screen for next risk category Initial Population 3: Patients aged 40 to 75 years at the beginning of the measurement period with an active diagnosis of Type 1 or Type 2 diabetes at any time during the measurement period – If YES, meets Initial Population 3 risk category – If NO, patient does NOT meet Initial Population criteria and is NOT eligible for measure inclusion Initial Population Guidance for Encounter: In order for the patient to be included in the Initial Population, the patient must have ONE initial population-eligible visit, defined as follows: outpatient visit, initial or established office visit, face-to-face interaction, preventive care services, or annual wellness visit LDL-C Laboratory test result options: The measure can be reported for all patients with a documented LDL-C level recorded as follows: To meet Initial Population 1: There is no LDL-C result required. To meet Initial Population 2: If a patient has ANY previous laboratory result of LDL-C >= 190 mg/dL, report the highest value >= 190 mg/dL. To meet Initial Population 3: There is no LDL-C result required. Numerator instructions and guidance: – Current statin therapy use must be documented in the patient's current medication list or ordered during the measurement period.

	– ONLY statin therapy meets the measure Numerator criteria (NOT other cholesterol lowering medications). – Prescription or order does NOT need to be linked to an encounter or visit; it may be called to the pharmacy. – Statin medication "samples" provided to patients can be documented as "current statin therapy" if documented in the medication list in health/medical record. – Patients who meet the denominator criteria for inclusion, but are not prescribed or using statin therapy, will NOT meet performance for this measure unless they have an allowable denominator exception. Patients with an allowable denominator exception should be removed from the denominator of the measure and reported as a valid exception. – There is only one performance rate calculated for this measure: the weighted average of the three populations. – Adherence to statin therapy is not calculated in this measure. – It may not be appropriate to prescribe statin therapy for some patients (see exceptions and exclusions for the complete list). Intensity of statin therapy in primary and secondary prevention: The expert panel of the 2018 ACC/AHA/MS Guidelines (Grundy et al., 2019) defines recommended intensity of statin therapy on the basis of the average expected LDL-C response to specific statin and dose. Although intensity of statin therapy is important in managing cholesterol, this measure assesses prescription of ANY statin therapy, irrespective of intensity. Assessment of appropriate intensity and dosage documentation added too much complexity to allow inclusion of statin therapy intensity in the measure at this time. Lifestyle modification coaching: A healthy lifestyle is important for the prevention of cardiovascular disease. However, lifestyle modification monitoring and documentation added too much complexity to allow its inclusion in the measure at this time.
Initial Population	Population 1: All patients who were previously diagnosed with or currently have an active diagnosis of clinical ASCVD, including an ASCVD procedure Population 2: Patients aged >= 20 years at the beginning of the measurement period who have ever had a laboratory result of LDL-C >=190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial hypercholesterolemia Population 3: Patients aged 40 to 75 years at the beginning of the measurement period with Type 1 or Type 2 diabetes
Denominator	Equals Initial Population

Denominator Exclusions	Patients who have a diagnosis of pregnancy at any time during the measurement period. Patients who are breastfeeding at any time during the measurement period. Patients who have a diagnosis of rhabdomyolysis at any time during the measurement period
Numerator:	Patients who are actively using or who receive an order (prescription) for statin therapy at any point during the measurement period.
Numerator Exclusions	None.
Denominator Exceptions	Patients with statin-associated muscle symptoms or an allergy to statin medication Patients who are receiving palliative or hospice care Patients with active liver disease or hepatic disease or insufficiency Patients with end-stage renal disease (ESRD)
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.27.2 Data Entry

Description	Percentage of the following patients - all considered at high risk of cardiovascular events - who were prescribed or were on statin therapy during the measurement period: • All patients who were previously diagnosed with or currently have an active diagnosis of clinical atherosclerotic cardiovascular disease (ASCVD), including an ASCVD procedure; OR • Patients aged >= 20 years who have ever had a low-density lipoprotein cholesterol (LDL-C) level >= 190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial hypercholesterolemia; OR • Patients aged 40-75 years with a diagnosis of diabetes.

Three Measures based on age and risk

Denominator 1:

- Age equal or >21 at start of measurement period.
- Qualifying encounter during measurement period.
- Annual Wellness Visit (Value Set 2.16.840.1.113883.3.526.2.1363).
- Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.11.1005).
- Outpatient Consultation (Value Set 2.16.840.1.113883.3.464.1003.101.11.1040).

- Outpatient Encounters for Preventive Care (Value Set 2.16.840.1.113762.1.4.1047.9).
- Palliative care encounter (Value Set 2.16.840.1.113883.3.600.1.1575).
- Preventive Care Services (Value Set 2.16.840.1.113883.3.464.1003.101.11.1125).
- Preventive Care Services – Other (Value Set 2.16.840.1.113883.3.464.1003.101.12.1030).
- Preventive Care Services-Individual Counseling (Value Set 2.16.840.1.113883.3.464.1003.101.12.1026).
- Preventive Care Services-Initial Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.11.1115).
- Clinical diagnosis of ASCVD (Value Set: 2.16.840.1.113762.1.4.1047.21).

Denominator exclusions:

- Diagnosis of breastfeeding (Value Set: 2.16.840.1.113762.1.4.1047.73).
- Pregnancy (Value Set: 2.16.840.1.113883.3.600.1.1623).
- Rhabdomyolysis (Value Set: 2.16.840.1.113762.1.4.1047.102) overlapping measurement period.

Numerator 1:

- Medication order or active prescription for statin (low, moderate, or high intensity):
  (Value Set: 2.16.840.1.113762.1.4.1047.107.
  Value Set: 2.16.840.1.113762.1.4.1047.98.
  Value Set: 2.16.840.1.113762.1.4.1047.97).

Denominator Exceptions:

- Palliative care (Value Set: 2.16.840.1.113883.3.600.1.1579).
- ESRD (Value Set: 2.16.840.1.113883.3.526.3.353).
- Hepatitis A (Value Set: 2.16.840.1.113883.3.464.1003.110.12.1024).
- Hepatitis B (Value Set: 2.16.840.1.113883.3.67.1.101.1.269).
- Liver Disease (Value Set: 2.16.840.1.113762.1.4.1047.42).
- Statin allergy (Value Set: 2.16.840.1.113883.3.117.1.7.1.423), overlapping measurement period.

Denominator 2:

- Age equal or >21 at start of measurement period.
- Qualifying encounter during measurement period (face to face, annual wellness visit, preventive care services, initial or established office visit. See value sets for details).

- LDL>190 or Diagnosis Hypercholesterolemia
  BUT without diagnosis of ASCVD or procedure before end of measurement period.

Denominator exclusions:

- Diagnosis of breastfeeding, pregnancy, or rhabdomyolysis overlapping measurement period.

Numerator 2: Medication order or active prescription for statin (low, moderate, or high intensity).

Denominator Exceptions: Palliative care, ESRD, Hepatitis A, Hepatitis B, Liver Disease, or Statin allergy overlapping measurement period.

Denominator 3:

- Age equal or >40 and less than or equal to 75 at start of measurement period.
- Qualifying encounter during measurement period (face to face, annual wellness visit, preventive care services, initial or established office visit).
- Diagnosis = Diabetes (Value Set: 2.16.840.1.113883.3.464.1003.103.12.1001).
- LDL result equal to or >70 mg/dl AND <190 during 3 years before END of measurement period.
- No preexisting ASCVD Diagnosis or procedure, no diagnosis of hypercholesterolemia.
- No LDL result before end of measurement period greater than or equal to 190.

Denominator exclusions:

- Diagnosis of breastfeeding, pregnancy, or rhabdomyolysis overlapping measurement period.

Numerator 3: Medication order or active prescription for statin (low, moderate, or high intensity).

Denominator Exceptions: Palliative care, ESRD, Hepatitis A, Hepatitis B, Liver Disease, or Statin allergy overlapping measurement period,

Denominator exception: LDL within 3 years of end of measurement period <70mg/dl,

3.27.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Encounter for palliative care" ("ICD10CM Code (Z51.5)")
- valueset "Annual Wellness Visit" (2.16.840.1.113883.3.526.3.1240)
- valueset "Atherosclerosis and Peripheral Arterial Disease" (2.16.840.1.113762.1.4.1047.21)
- valueset "Breastfeeding" (2.16.840.1.113762.1.4.1047.73)

- valueset "CABG Surgeries" (2.16.840.1.113883.3.666.5.694)
- valueset "CABG, PCI Procedure" (2.16.840.1.113762.1.4.1138.566)
- valueset "Carotid Intervention" (2.16.840.1.113883.3.117.1.7.1.204)
- valueset "Cerebrovascular Disease, Stroke, TIA" (2.16.840.1.113762.1.4.1047.44)
- valueset "Diabetes" (2.16.840.1.113883.3.464.1003.103.12.1001)
- valueset "End Stage Renal Disease" (2.16.840.1.113883.3.526.3.353)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Familial Hypercholesterolemia" (2.16.840.1.113762.1.4.1047.100)
- valueset "Hepatitis A" (2.16.840.1.113883.3.464.1003.110.12.1024)
- valueset "Hepatitis B" (2.16.840.1.113883.3.67.1.101.1.269)
- valueset "High Intensity Statin Therapy" (2.16.840.1.113883.3.526.3.1572)
- valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.526.3.1584)
- valueset "Ischemic Heart Disease or Other Related Diagnoses" (2.16.840.1.113762.1.4.1047.46)
- valueset "LDL Cholesterol" (2.16.840.1.113883.3.526.3.1573)
- valueset "Liver Disease" (2.16.840.1.113762.1.4.1047.42)
- valueset "Low Intensity Statin Therapy" (2.16.840.1.113883.3.526.3.1574)
- valueset "Moderate Intensity Statin Therapy" (2.16.840.1.113883.3.526.3.1575)
- valueset "Myocardial Infarction" (2.16.840.1.113883.3.526.3.403)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Outpatient Encounters for Preventive Care" (2.16.840.1.113883.3.526.3.1576)
- valueset "Palliative or Hospice Care" (2.16.840.1.113883.3.600.1.1579)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "PCI" (2.16.840.1.113762.1.4.1045.67)
- valueset "Pregnancy or Other Related Diagnoses" (2.16.840.1.113883.3.600.1.1623)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)

- valueset "Preventive Care Services - Other" (2.16.840.1.113883.3.464.1003.101.12.1030)
- valueset "Preventive Care Services-Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Rhabdomyolysis" (2.16.840.1.113762.1.4.1047.102)
- valueset "Stable and Unstable Angina" (2.16.840.1.113762.1.4.1047.47)
- valueset "Statin Allergen" (2.16.840.1.113762.1.4.1110.42)
- valueset "Statin Associated Muscle Symptoms" (2.16.840.1.113762.1.4.1108.85)

3.27.4 Data Criteria (QDM Data Elements)

- "Adverse Event: Statin Allergen" using "Statin Allergen (2.16.840.1.113762.1.4.1110.42)"
- "Allergy/Intolerance: Statin Allergen" using "Statin Allergen (2.16.840.1.113762.1.4.1110.42)"
- "Diagnosis: Atherosclerosis and Peripheral Arterial Disease" using "Atherosclerosis and Peripheral Arterial Disease (2.16.840.1.113762.1.4.1047.21)"
- "Diagnosis: Breastfeeding" using "Breastfeeding (2.16.840.1.113762.1.4.1047.73)"
- "Diagnosis: Cerebrovascular Disease, Stroke, TIA" using "Cerebrovascular Disease, Stroke, TIA (2.16.840.1.113762.1.4.1047.44)"
- "Diagnosis: Diabetes" using "Diabetes (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: End Stage Renal Disease" using "End Stage Renal Disease (2.16.840.1.113883.3.526.3.353)"
- "Diagnosis: Familial Hypercholesterolemia" using "Familial Hypercholesterolemia (2.16.840.1.113762.1.4.1047.100)"
- "Diagnosis: Hepatitis A" using "Hepatitis A (2.16.840.1.113883.3.464.1003.110.12.1024)"
- "Diagnosis: Hepatitis B" using "Hepatitis B (2.16.840.1.113883.3.67.1.101.1.269)"
- "Diagnosis: Ischemic Heart Disease or Other Related Diagnoses" using "Ischemic Heart Disease or Other Related Diagnoses (2.16.840.1.113762.1.4.1047.46)"
- "Diagnosis: Liver Disease" using "Liver Disease (2.16.840.1.113762.1.4.1047.42)"

- "Diagnosis: Myocardial Infarction" using "Myocardial Infarction (2.16.840.1.113883.3.526.3.403)"
- "Diagnosis: Pregnancy or Other Related Diagnoses" using "Pregnancy or Other Related Diagnoses (2.16.840.1.113883.3.600.1.1623)"
- "Diagnosis: Rhabdomyolysis" using "Rhabdomyolysis (2.16.840.1.113762.1.4.1047.102)"
- "Diagnosis: Stable and Unstable Angina" using "Stable and Unstable Angina (2.16.840.1.113762.1.4.1047.47)"
- "Diagnosis: Statin Associated Muscle Symptoms" using "Statin Associated Muscle Symptoms (2.16.840.1.113762.1.4.1108.85)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Encounter for palliative care" using "Encounter for palliative care (ICD10CM Code Z51.5)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Outpatient Encounters for Preventive Care" using "Outpatient Encounters for Preventive Care (2.16.840.1.113883.3.526.3.1576)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services - Other" using "Preventive Care Services - Other (2.16.840.1.113883.3.464.1003.101.12.1030)"
- "Encounter, Performed: Preventive Care Services-Individual Counseling" using "Preventive Care Services-Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Intervention, Order: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
- "Intervention, Order: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Intervention, Performed: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"

- "Intervention, Performed: Palliative or Hospice Care" using "Palliative or Hospice Care (2.16.840.1.113883.3.600.1.1579)"
- "Laboratory Test, Performed: LDL Cholesterol" using "LDL Cholesterol (2.16.840.1.113883.3.526.3.1573)"
- "Medication, Active: High Intensity Statin Therapy" using "High Intensity Statin Therapy (2.16.840.1.113883.3.526.3.1572)"
- "Medication, Active: Low Intensity Statin Therapy" using "Low Intensity Statin Therapy (2.16.840.1.113883.3.526.3.1574)"
- "Medication, Active: Moderate Intensity Statin Therapy" using "Moderate Intensity Statin Therapy (2.16.840.1.113883.3.526.3.1575)"
- "Medication, Order: High Intensity Statin Therapy" using "High Intensity Statin Therapy (2.16.840.1.113883.3.526.3.1572)"
- "Medication, Order: Low Intensity Statin Therapy" using "Low Intensity Statin Therapy (2.16.840.1.113883.3.526.3.1574)"
- "Medication, Order: Moderate Intensity Statin Therapy" using "Moderate Intensity Statin Therapy (2.16.840.1.113883.3.526.3.1575)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: CABG Surgeries" using "CABG Surgeries (2.16.840.1.113883.3.666.5.694)"
- "Procedure, Performed: CABG, PCI Procedure" using "CABG, PCI Procedure (2.16.840.1.113762.1.4.1138.566)"
- "Procedure, Performed: Carotid Intervention" using "Carotid Intervention (2.16.840.1.113883.3.117.1.7.1.204)"
- "Procedure, Performed: PCI" using "PCI (2.16.840.1.113762.1.4.1045.67)"

3.28 CMS349V3 HIV Screening

3.28.1 Detail

Description	Percentage of patients aged 15-65 at the start of the measurement period who were between 15-65 years old when tested for HIV
Rationale	Human immunodeficiency virus (HIV) is a communicable infection that leads to a progressive disease with a long asymptomatic period. There were an estimated 38,700 new HIV infections in the United States in 2016 (Centers for Disease Control and Prevention, 2019a). Without treatment, most persons develop acquired immunodeficiency syndrome (AIDS) within 10 years of HIV infection. Antiretroviral therapy (ART) delays this progression and increases the length of survival, but it is most effective when initiated during the asymptomatic phase. Persons living with HIV who use ART and achieve viral suppression can have a nearly normal life expectancy (Samji et al., 2013). DHHS Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents recommends immediate antiretroviral therapy for all HIV-infected individuals, regardless of CD4 count at diagnosis, to reduce the risk of disease progression (Panel on Antiretroviral Guidelines for Adults and Adolescents, 2019). CDC estimates that, at the end of 2016, approximately 14% of the 1.1 million adults and adolescents living with HIV infection in the United States were unaware of their infection (Centers for Disease Control and Prevention, 2018b). Among persons diagnosed with HIV in 2017, approximately 21% were diagnosed with Stage 3 HIV (AIDS) at the time of HIV diagnosis (Centers for Disease Control and Prevention, 2019c), which is when the median CD4 count at diagnosis is less than 200 cells/mm3 for persons aged greater than or equal to 6 years (Centers for Disease Control and Prevention, 2019a). HIV screening identifies infected persons who were previously unaware of their infection, which enables them to seek medical and social services that can improve their health and the quality and length of their lives. Additionally, using ART with high levels of medication adherence has been shown to substantially reduce risk for HIV transmission (Panel on Antiretroviral Guidelines for Adults and Adolescents, 2019). Based on the Behavioral Risk Factor Surveillance System (BRFSS), the percentage of ever tested for HIV increased from 42.9% in 2011 to 45.9% in 2017. Despite this increase, less than half of US adults have ever been tested for HIV over ten years after CDC's recommendations (Patel et al., 2019).

Clinical Recommendation Statement	The US Preventive Services Task Force recommends that clinicians screen for HIV infection in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at increased risk should also be screened (A Recommendation) (Owens, et al., 2019). Since 2006, the CDC has recommended routine opt-out HIV screening (i.e., patient is notified that testing will be performed unless the patient declines) in healthcare facilities of adolescents and adults 13-64 years of age and HIV diagnostic testing of adolescents and adults with clinical signs or symptoms consistent with HIV infection (Centers for Disease Control and Prevention, 2006).
Guidance	This measure evaluates the proportion of patients aged 15 to 65 at the start of the measurement period who have documentation of having received an HIV test at least once on or after their 15th birthday and before their 66th birthday. In order to satisfy the measure, the reporting provider must have documentation of the administration of the laboratory test present in the patient's medical record. In cases where the HIV test was performed elsewhere, providers cannot rely on patient attestation or self-report to meet the measure requirements, as previous research has shown that patient self-report is an unreliable indicator of previous HIV testing history. Rather, providers must request documentation of those test results. If such documentation is not available, the patient should be considered still eligible for HIV screening. If such documentation is available, but cannot be provided in a standardized, structured format (such that the lab test and results can be readily incorporated as structured data within the EHR), providers should enter the information into their EHR as a laboratory test in a manner consistent with the EHR in use. If the specific Human Immunodeficiency Virus (HIV) Laboratory Test LOINC code of the test is not known, the entry should use the more generic code LOINC panel code [75622-1].
Initial Population	Patients 15 to 65 years of age at the start of the measurement period AND who had at least one outpatient visit during the measurement period
Denominator	Equals Initial Population.
Denominator Exclusions	Patients diagnosed with HIV prior to the start of the measurement period.
Numerator:	Patients with documentation of an HIV test performed on or after their 15th birthday and before their 66th birthday
Numerator Exclusions	Not Applicable.
Denominator Exceptions	None.
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

3.28.2 Data Entry

Description	Percentage of patients 15-65 years of age who have been tested for HIV within that age range.

Initial population: Age equal to or greater than 15, and less than 66 at start of measurement period

Qualifying encounter:

- Office Visit (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001)
- Preventive Care Services (Value Set 2.16.840.1.113883.3.464.1003.101.12.1022, ….1023, ….1024, …1025)

Denominator exclusions: Diagnosis of “Conditions Due to HIV” before start of measurement period (Value Set: 2.16.840.1.113762.1.4.1056.54)

Numerator (either of the following:

- Lab test HIV codes Ag and Ab (Value Set: 2.16.840.1.113762.1.4.1056.50)
- HIV Tests 1 and 2 (https://r.details.loinc.org/LOINC/75622-1.html), resulted before end of measurement period and when patient age 15-66.

3.28.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "HIV 1 and 2 tests - Meaningful Use set" ("LOINC Code (75622-1)")
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Human Immunodeficiency Virus (HIV) Laboratory Test Codes (Ab and Ag)" (2.16.840.1.113762.1.4.1056.50)
- valueset "Indicators of Human Immunodeficiency Virus (HIV)" (2.16.840.1.113762.1.4.1056.54)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)

- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)

3.28.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Indicators of Human Immunodeficiency Virus (HIV)" using "Indicators of Human Immunodeficiency Virus (HIV) (2.16.840.1.113762.1.4.1056.54)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)"
- "Laboratory Test, Performed: HIV 1 and 2 tests - Meaningful Use set" using "HIV 1 and 2 tests - Meaningful Use set (LOINC Code 75622-1)"
- "Laboratory Test, Performed: Human Immunodeficiency Virus (HIV) Laboratory Test Codes (Ab and Ag)" using "Human Immunodeficiency Virus (HIV) Laboratory Test Codes (Ab and Ag) (2.16.840.1.113762.1.4.1056.50)"
- "Patient Characteristic Birthdate: Birth date" using "Birth date (LOINC Code 21112-8)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

Appendix A Using the Value Set Authority Center

Using the VSAC to review approved codes for each measure. Codes displayed may be ICD codes, SNOMED codes, CPT codes or others depending on the measure logic. There are value sets for diagnoses, encounter codes, procedures. To receive credit for any particular measure, you must be using one of these codes.

To log on to your existing account, do the following:

1. Log on to the VSAC (https://vsac.nlm.nih.gov/welcome) and click **Sign In**. (You can create a new, free account Figure A-1).

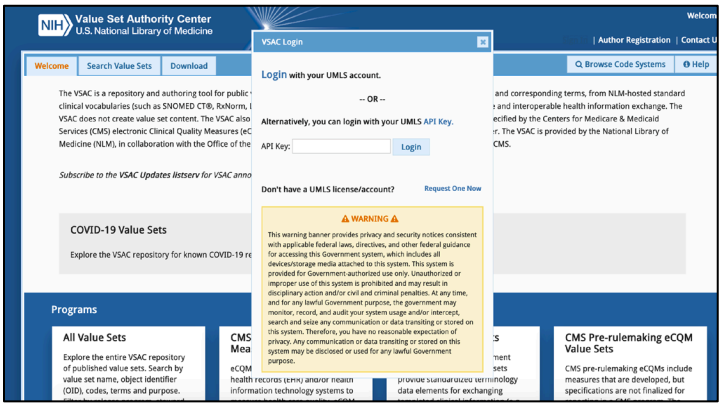


Figure A-1: Value Set Authority Center

2. Click the highlighted **Login** as you may not have the API key. Or request an account.

3. When you log in, the system will ask you to use an existing service to verify your identity.

4. Click the CMS **eCQM Value Sets** search box (Figure A-2).

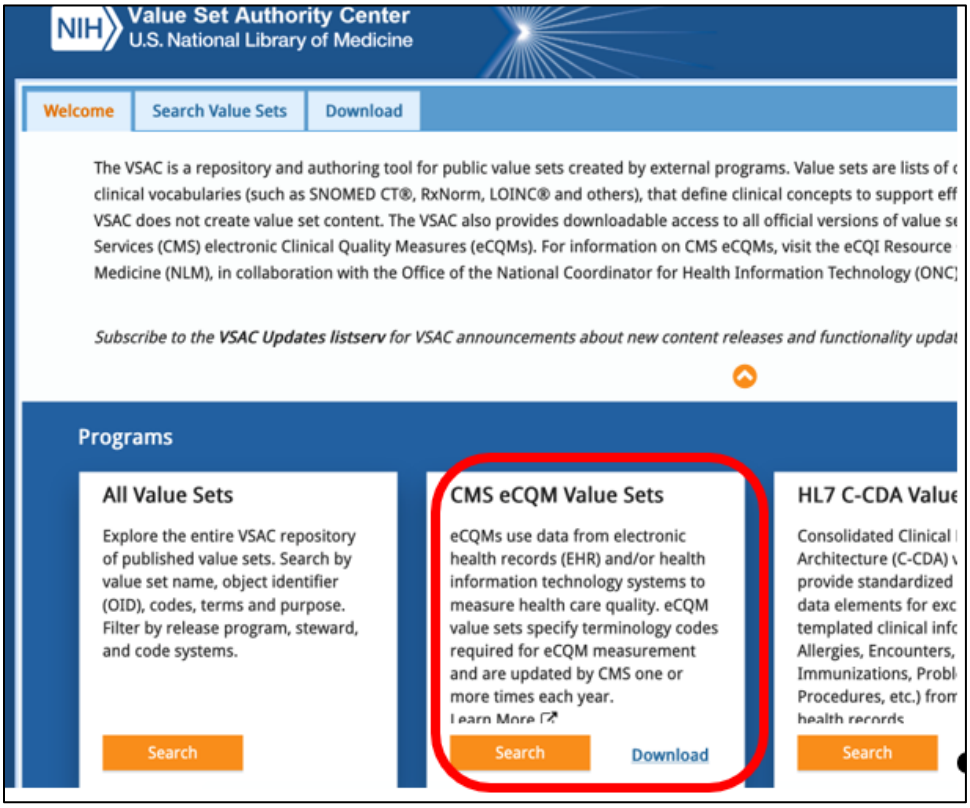


Figure A-2: Value Set Authority Center Welcome page

The following search page displays:

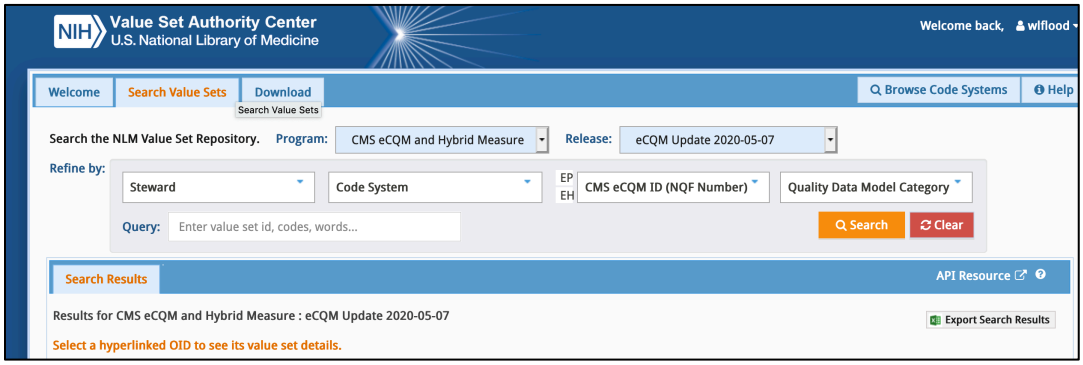


Figure A-3: Value Set Authority Center search page

5. In the query field, enter the Value Set identification number. In this example enter the code for depression screening encounters (**2.16.840.1.113883.3.600.1916**), then click **Search**. Value Set identification numbers are found for each measure in the section, **Value Sets.**

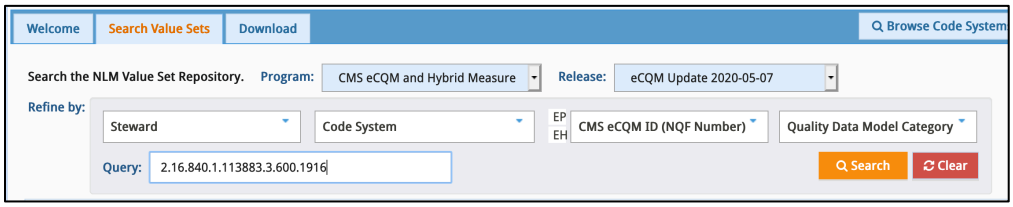


Figure A-4: Value Set Authority Center search page

6. Click the underlined hyperlink on the right side (Figure A-5).

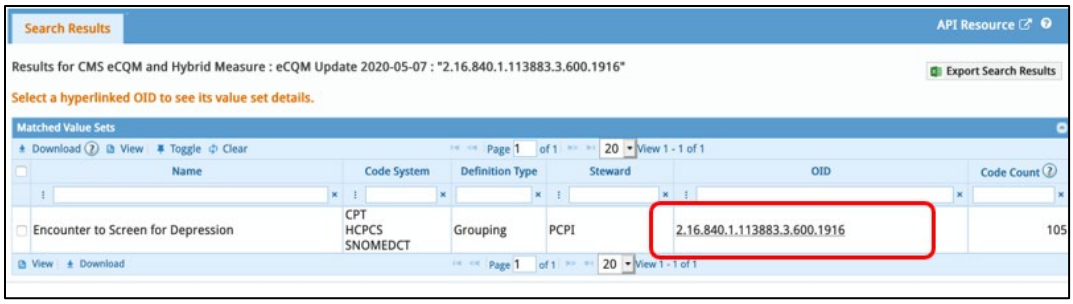


Figure A-5: Value Set Authority Center search results page

7. Scroll to view all the codes (105 of them in this case).

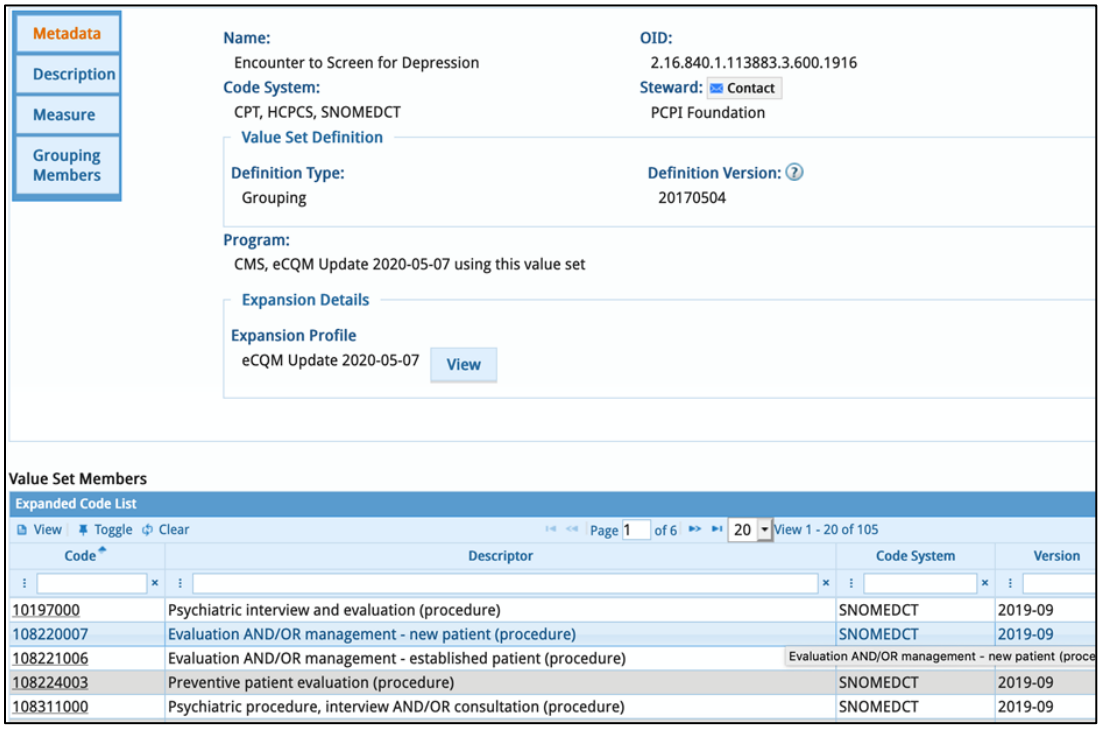


Figure A-6: Value Set Authority Center search results page

Appendix B Using the United States Health Information Knowledgebase

The United States Health Information Knowledgebase (USHIK) is an on-line, publicly accessible registry and repository of healthcare-related metadata, specifications, and standards. This includes information about changes in CQM and changes in Value Sets that allow comparison.

Establish an account (Free):

1. Log into USHIK: https://ushik.ahrq.gov/mdr/portals?system=mdr.

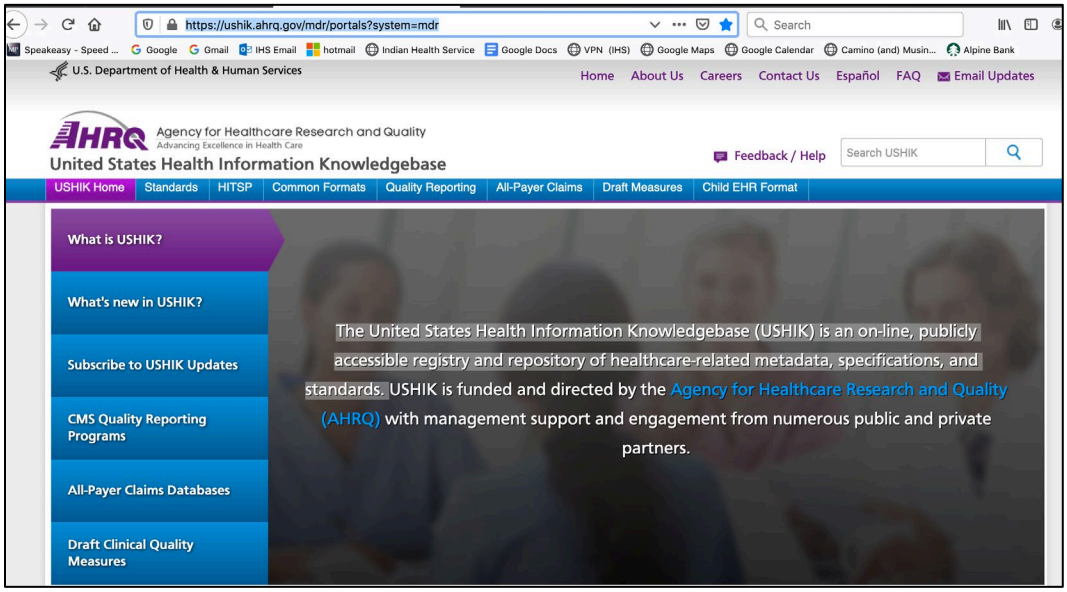


Figure B-1: United States Health Information Knowledgebase main page

2. Click **Quality Reporting** in the top menu bar.

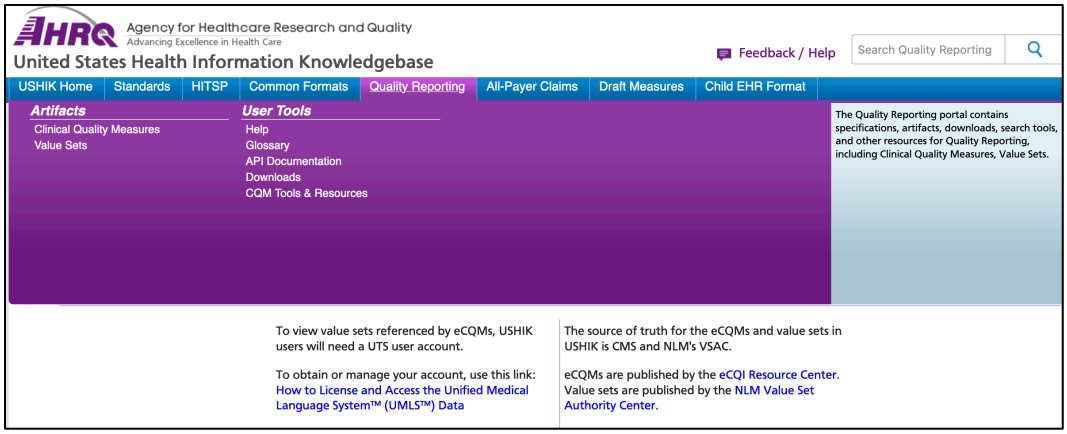


Figure B-2: USHIK Quality Reporting

3. Click **Clinical Quality Measures** on the left.

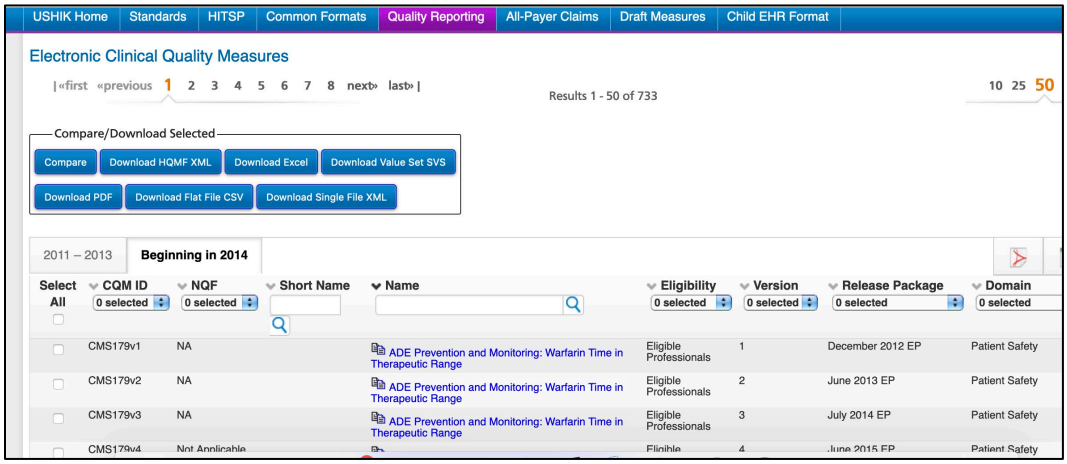


Figure B-3: eCQM Reporting

4. This is a ***very*** long list, but you can filter it by selecting the most recent version from the **release package** dropdown. You can also compare two or more years by checking more than one in that dropdown. Or you can select hospital measures from the **Eligibility** dropdown (this screen is for providers).

5. Here two different years are selected:

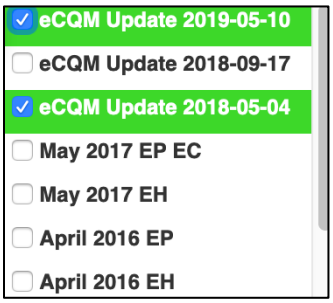


Figure B-4: eCQM Updates

6. Apply these filters to see the following: Note the different versions for different years.

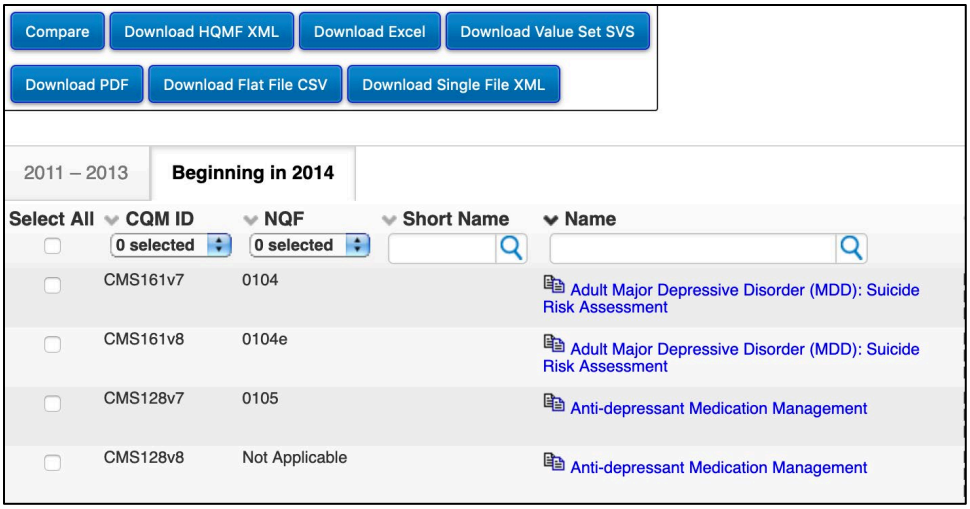


Figure B-5: Choose Versions to compare

7. You can select different versions to compare by checking the boxes on the left, then click the **compare** button.

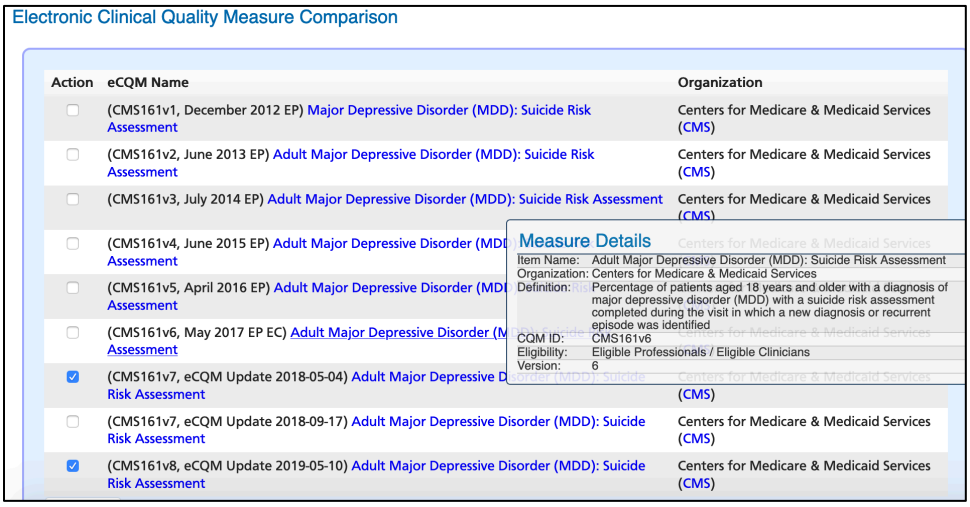


Figure B-6: Comparison Results

8. You can see all the recent versions and check any you want to view (useful for troubleshooting when the value sets have changed). Scroll down to see a narrative, and then click the **QDM Data Elements and Codes** button.

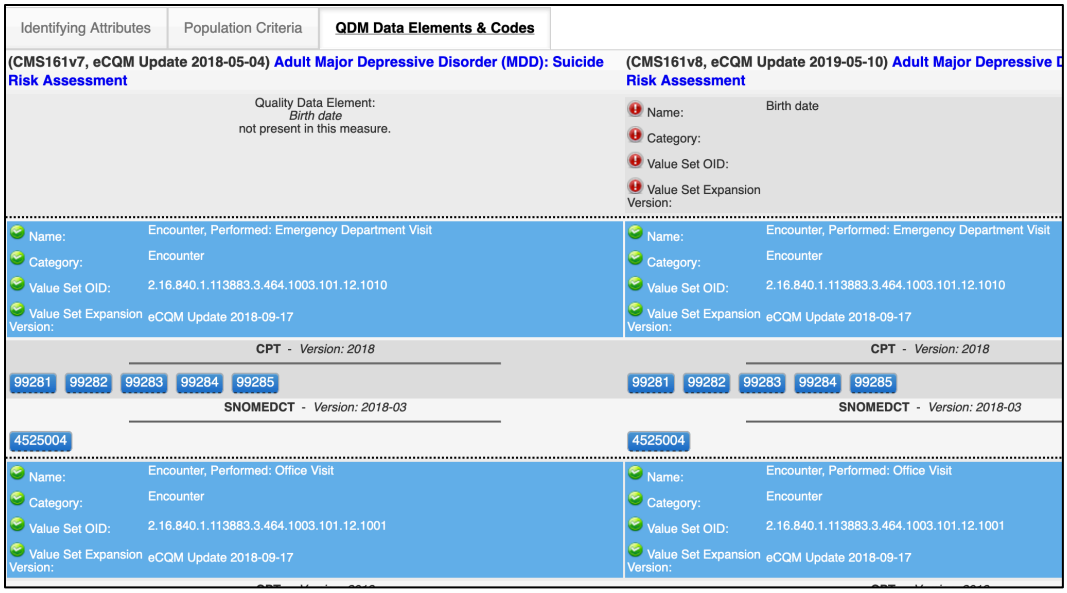


Figure B-7: CQM Data Elements and Codes

Version 7 codes are on the left. Version 8 on the right. You can hoover over any code to get a description. Codes that are highlighted in BLUE have not changed and are shared by both versions. Codes that have been changed, added, or deleted, are grey, as below:

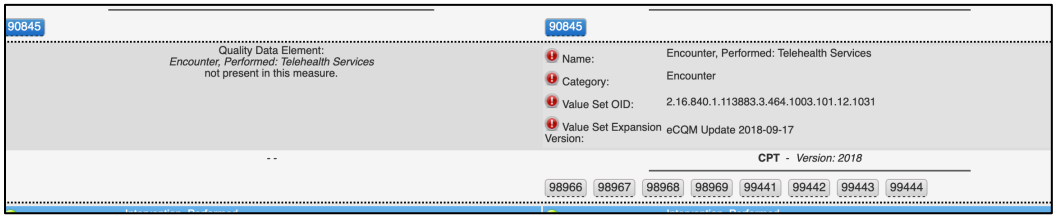


Figure B-8: CQM Data Elements and Codes

9. Codes for telehealth services are new in this version and were not in a prior version.

Appendix C Using the Electronic Clinical Quality Improvement (eCQI) Resource Center

C.1 Access eCQI

1. Log into eCQI: https://ecqi.healthit.gov/.

2. **Electronic Clinical Quality Improvement (eCQI) Resource Center** – The one-stop shop for the most current resources to support electronic clinical quality improvement. This replaces the USHIK site to some extent but is different. Comparing different years is easier on the USHIK site. There is a lot of information on this site. To see details, log on using the same information used for VSAC or USHIK.

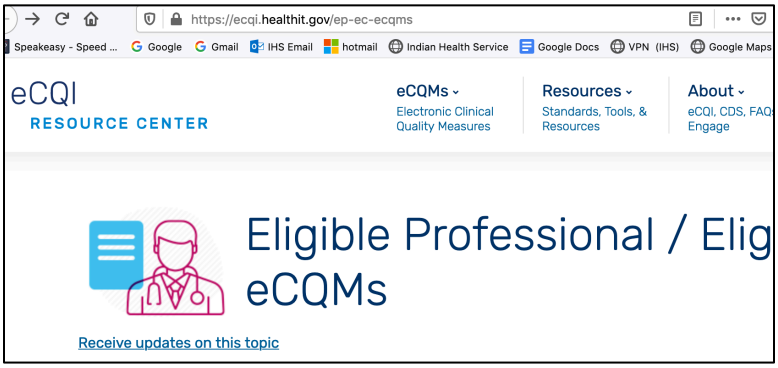


Figure C-1: eCQI Resource Center

3. Click the **eCQM** drop down to select hospital or provider measures.

Figure C-2: Select Measures

4. Scroll down to select the performance period (2019 is selected in this example).

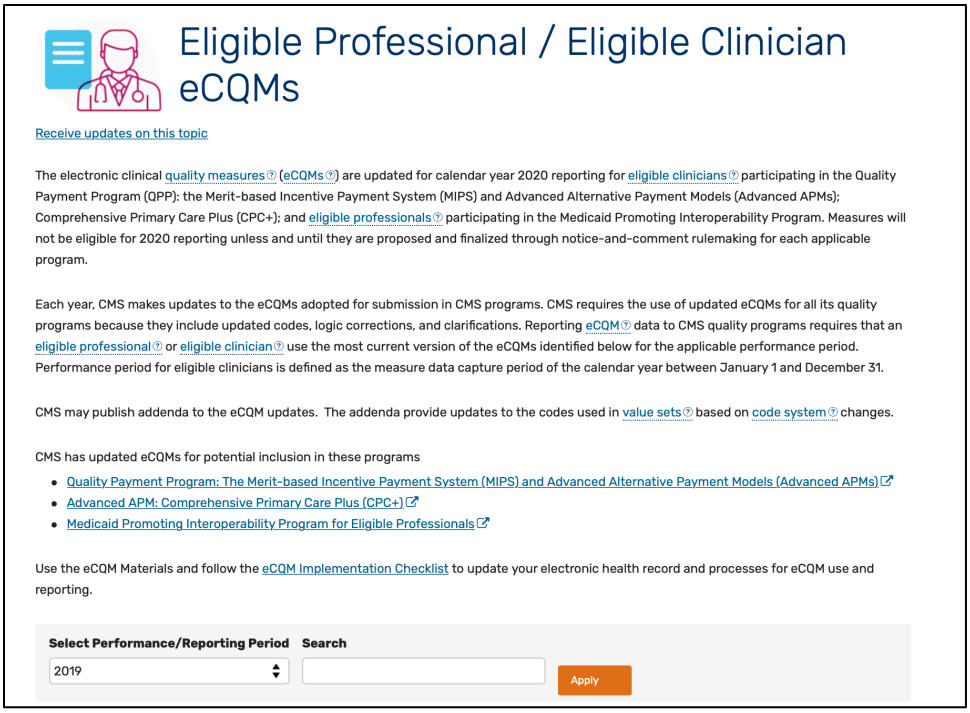
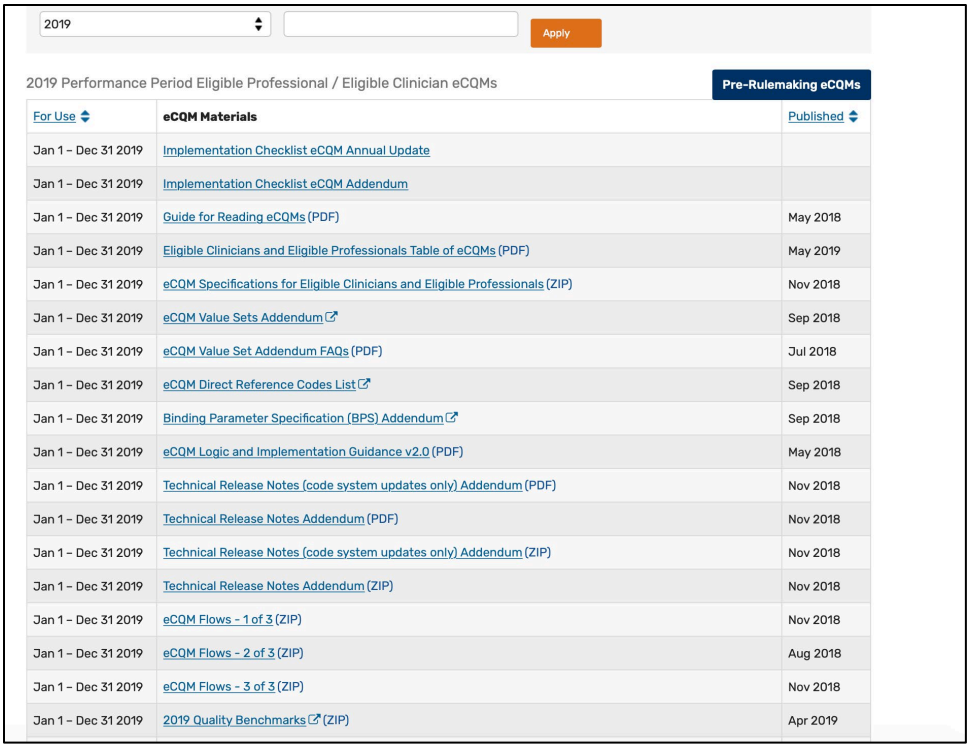


Figure C-3: Eligible Professional/Clinician eCQMs

5. Then select from the extensive list of links to view items such as eCQM specifications. Clicking Value Sets addendum displays the VASC. eCQM flows show the wireframes or flow diagrams for each measure.



For Use	eCQM Materials	Published
Jan 1 – Dec 31 2019	Implementation Checklist eCQM Annual Update	
Jan 1 – Dec 31 2019	Implementation Checklist eCQM Addendum	
Jan 1 – Dec 31 2019	Guide for Reading eCQMs (PDF)	May 2018
Jan 1 – Dec 31 2019	Eligible Clinicians and Eligible Professionals Table of eCQMs (PDF)	May 2019
Jan 1 – Dec 31 2019	eCQM Specifications for Eligible Clinicians and Eligible Professionals (ZIP)	Nov 2018
Jan 1 – Dec 31 2019	eCQM Value Sets Addendum	Sep 2018
Jan 1 – Dec 31 2019	eCQM Value Set Addendum FAQs (PDF)	Jul 2018
Jan 1 – Dec 31 2019	eCQM Direct Reference Codes List	Sep 2018
Jan 1 – Dec 31 2019	Binding Parameter Specification (BPS) Addendum	Sep 2018
Jan 1 – Dec 31 2019	eCQM Logic and Implementation Guidance v2.0 (PDF)	May 2018
Jan 1 – Dec 31 2019	Technical Release Notes (code system updates only) Addendum (PDF)	Nov 2018
Jan 1 – Dec 31 2019	Technical Release Notes Addendum (PDF)	Nov 2018
Jan 1 – Dec 31 2019	Technical Release Notes (code system updates only) Addendum (ZIP)	Nov 2018
Jan 1 – Dec 31 2019	Technical Release Notes Addendum (ZIP)	Nov 2018
Jan 1 – Dec 31 2019	eCQM Flows - 1 of 3 (ZIP)	Nov 2018
Jan 1 – Dec 31 2019	eCQM Flows - 2 of 3 (ZIP)	Aug 2018
Jan 1 – Dec 31 2019	eCQM Flows - 3 of 3 (ZIP)	Nov 2018
Jan 1 – Dec 31 2019	2019 Quality Benchmarks (ZIP)	Apr 2019

Figure C-4: Links

6. Scroll to the bottom to see the list of measures (for 2019 and earlier):

2019 Performance Period Eligible Professional / Eligible Clinician eCQMs

(USHIK Links are not updated for this Reporting Period)

Total number of EP/EC eCQMs: 50

Measure Name	CMS eCQM ID	Quality Domain	NQF ID	MIPS Quality ID	Meaningful Measure Area	Notes
Adult Major Depressive Disorder (MDD): Suicide Risk Assessment	CMS161v7	Effective Clinical Care	0104	107	Prevention, Treatment, and Management of Mental Health	
Anti-depressant Medication Management	CMS128v7	Effective Clinical Care	0105	009	Prevention and Treatment of Opioid and Substance Use Disorders	Meaningful Measure updated May 2019
Appropriate Testing for Children with Pharyngitis	CMS146v7	Efficiency and Cost Reduction	None	066	Appropriate Use of Healthcare	
Appropriate Treatment for Children with Upper Respiratory Infection (URI)	CMS154v7	Efficiency and Cost Reduction	0069	065	Appropriate Use of Healthcare	
Appropriate Use of DXA Scans in Women Under 65 Years Who Do Not Meet the Risk Factor Profile for Osteoporotic Fracture	CMS249v1	Efficiency and Cost Reduction	None	472	Appropriate Use of Healthcare	
Bone density evaluation for patients with prostate cancer and receiving androgen deprivation therapy	CMS645v2	Effective Clinical Care	None	462	Management of Chronic Conditions	
Breast Cancer Screening	CMS125v7	Effective Clinical Care	2372	112	Preventive Care	
Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery	CMS133v7	Effective Clinical Care	0565	191	Management of Chronic Conditions	

Figure C-5: Performance Period Links

7. Click one of these (e.g., Breast Cancer Screening) to see the specifications.

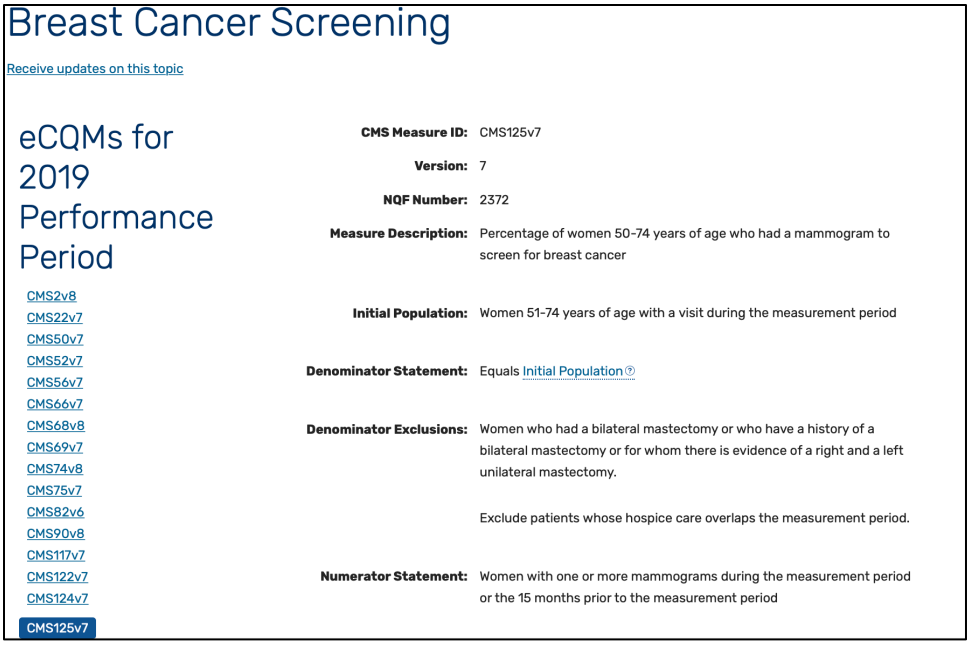


Figure C-6: Performance Period detail

8. Scrolling down on this page to **Specifications** allows you to download details of the measure in various views (Word or PDF).

C.2 Shortcut to Wireframes

1. Launch one of the following:
   a. **For Provider Measures:** https://ecqi.healthit.gov/ep-ec-ecqms.
   b. **For Hospital Measures:** https://ecqi.healthit.gov/eh-cah-ecqms.
2. Scroll through the displayed list to find the link eCQM Flows(ZIP).
3. Click the link. The associated ZIP file is displayed at the bottom left of the page (Figure C-7).

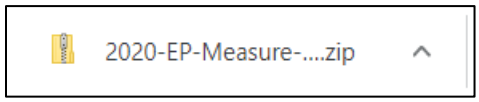


Figure C-7: ZIP file

4. Click the ZIP file name. The contents of the file are displayed.
5. Double click the PDF file to be displayed.

Appendix D Using Treatment/Regimen/Follow Up in RPMS EHR

There are multiple ways to capture data in the RPMS EHR, but one of the fastest for certain data types is TREG (Treatment/Regimen/Follow-up). Data entered here is saved to the visit file where it can be used by eCQM reports. Not all data from TREG can be used for eCQM, however, including lab tests and medication orders. TREG only saves in SNOMED format, while lab tests are usually stored as LOINC codes, and medications as RxNORM codes. These data must be saved in these formats to be used for eCQM.

To access TREG:

1. Create a visit in EHR.
2. Enter a POV.
3. Highlight the POV and click **Edit**:

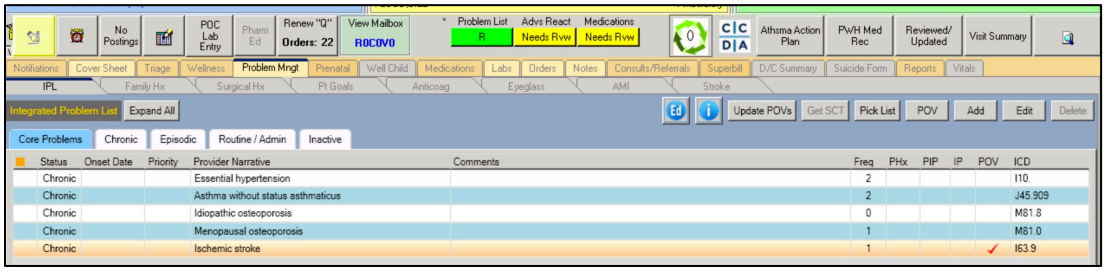


Figure D-1: Problem Management tab

4. On the Edit screen (Figure D-2), select **Add Visit Instruction/Care Plans/Goal Activities** from the lower right side:

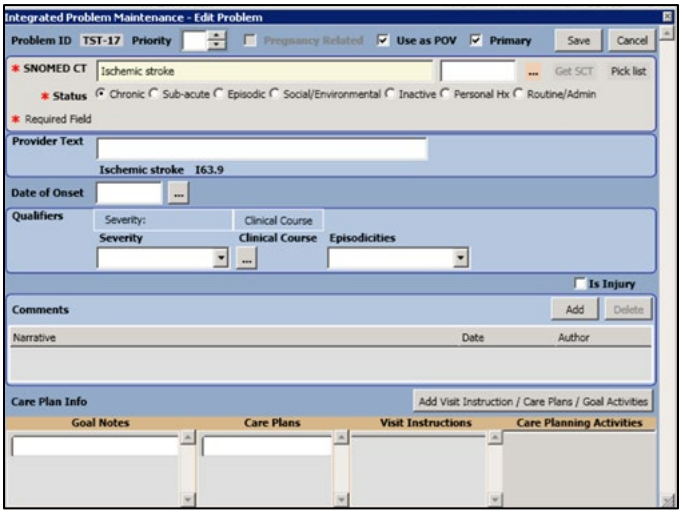


Figure D-2: Edit screen

5. This dialog box appears. Choose from among several education options in the upper half or click **Treatment/Regimen/Follow-up** and click **OK**.

Figure D-3: Patient Education Provided dialog

6. There are multiple options on this screen. Click the plus sign (+) to expand a drop-down list:

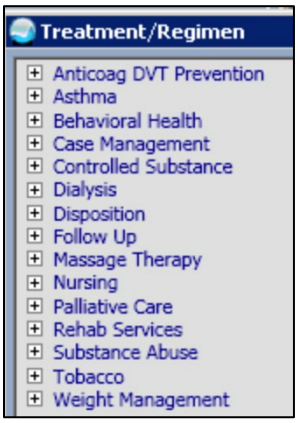


Figure D-4: Treatment/Regimen list

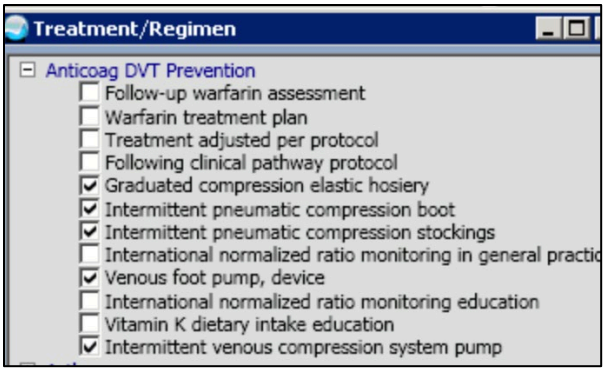


Figure D-5: Anticoag DVT Prevention list

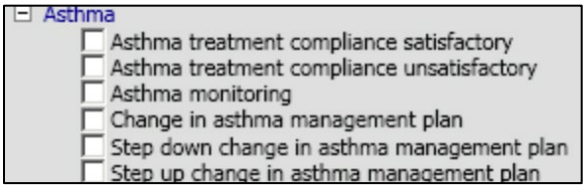


Figure D-6: Asthma list

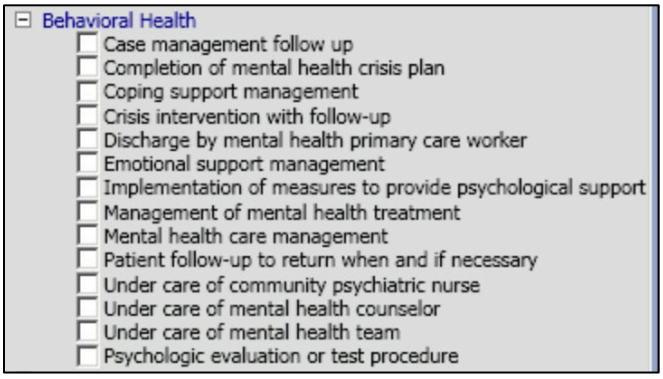


Figure D-7: Behavioral Health list

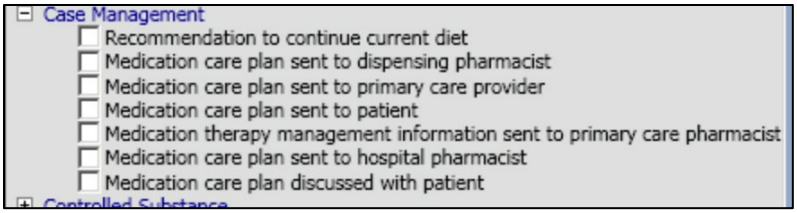


Figure D-8: Case Management list

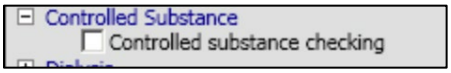


Figure D-9: Controlled Substances list

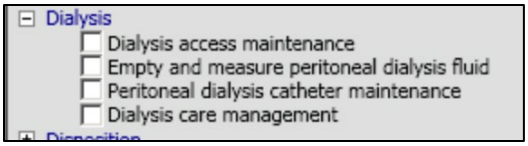


Figure D-10: Dialysis list

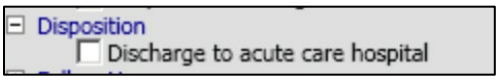


Figure D-11: Disposition list

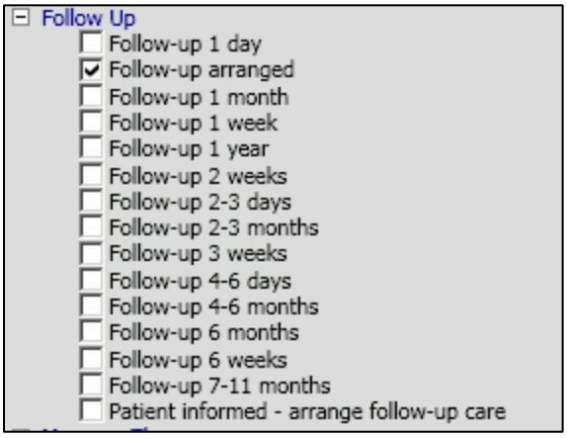


Figure D-12: Follow-up list

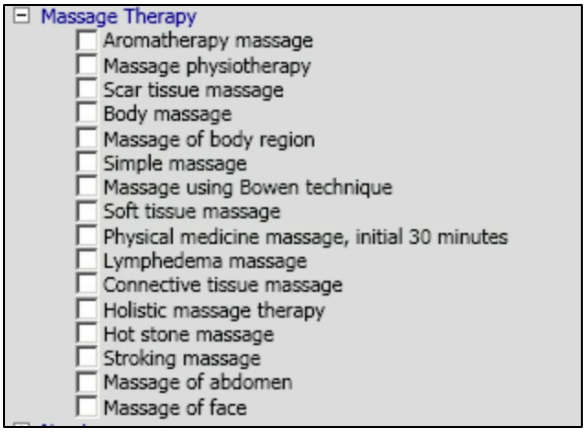


Figure D-13: Massage Therapy list

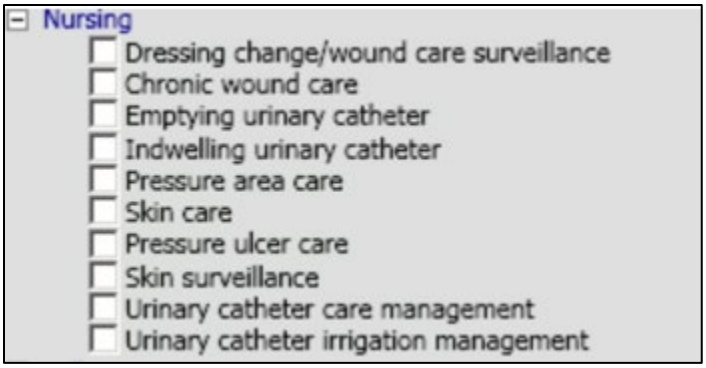


Figure D-14: Nursing list

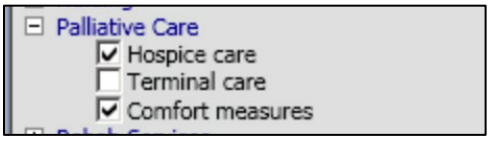


Figure D-15: Palliative Care list (These save codes are used by eCQM)

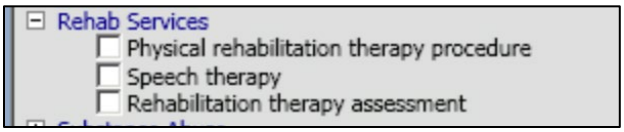


Figure D-16: Rehab Services list (These save codes are used by eCQM)

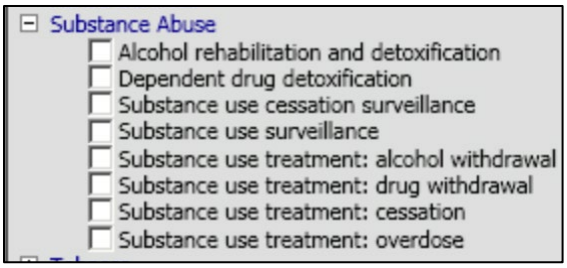


Figure D-17: Substance Abuse list (These save codes are used by eCQM)

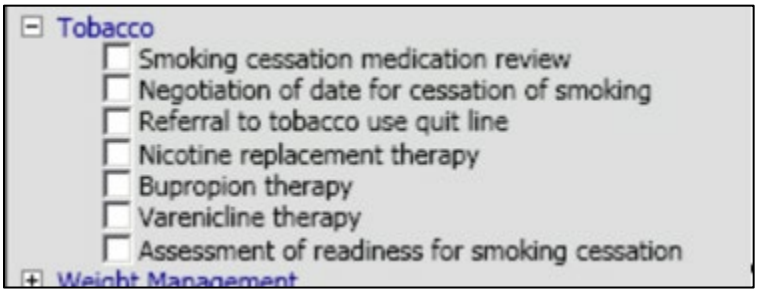


Figure D-18: Tobacco list (Medications on this list do NOT work for eCQM as they do not save in the required RxNORM format)

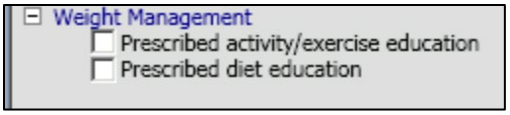


Figure D-19: Weight Management list

Appendix E Rules of Behavior

The Resource and Patient Management (RPMS) system is a United States Department of Health and Human Services (HHS), Indian Health Service (IHS) information system that is ***FOR OFFICIAL USE ONLY***. The RPMS system is subject to monitoring; therefore, no expectation of privacy shall be assumed. Individuals found performing unauthorized activities are subject to disciplinary action including criminal prosecution.

All users (Contractors and IHS Employees) of RPMS will be provided a copy of the Rules of Behavior (RoB) and must acknowledge that they have received and read them prior to being granted access to a RPMS system, in accordance IHS policy.

- For a listing of general ROB for all users, see the most recent edition of *IHS General User Security Handbook* (SOP 06-11a).
- For a listing of system administrators/managers rules, see the most recent edition of the *IHS Technical and Managerial Handbook* (SOP 06-11b).

Both documents are available at this IHS website: https://home.ihs.gov/security/index.cfm/.

> **Note**: Users must be logged on to the IHS D1 Intranet to access these documents.

E.1 All RPMS Users

In addition to these rules, each application may include additional RoBs that may be defined within the documentation of that application (e.g., Dental, Pharmacy).

E.1.1 Access

RPMS users shall:

- Only use data for which you have been granted authorization.
- Only give information to personnel who have access authority and have a need to know.
- Always verify a caller's identification and job purpose with your supervisor or the entity provided as employer before providing any type of information system access, sensitive information, or nonpublic agency information.
- Be aware that personal use of information resources is authorized on a limited basis within the provisions *Indian Health Manual* Part 8, "Information Resources Management," Chapter 6, "Limited Personal Use of Information Technology Resources."

RPMS users shall not:

- Retrieve information for someone who does not have authority to access the information.
- Access, research, or change any user account, file, directory, table, or record not required to perform their *official* duties.
- Store sensitive files on a PC hard drive, or portable devices or media, if access to the PC or files cannot be physically or technically limited.
- Exceed their authorized access limits in RPMS by changing information or searching databases beyond the responsibilities of their jobs or by divulging information to anyone not authorized to know that information.

E.1.2 Information Accessibility

RPMS shall restrict access to information based on the type and identity of the user. However, regardless of the type of user, access shall be restricted to the minimum level necessary to perform the job.

RPMS users shall:

- Access only those documents they created and those other documents to which they have a valid need-to-know and to which they have specifically granted access through an RPMS application based on their menus (job roles), keys, and FileMan access codes. Some users may be afforded additional privileges based on the functions they perform, such as system administrator or application administrator.
- Acquire a written preauthorization in accordance with IHS policies and procedures prior to interconnection to or transferring data from RPMS.

E.1.3 Accountability

RPMS users shall:

- Behave in an ethical, technically proficient, informed, and trustworthy manner.
- Log out of the system whenever they leave the vicinity of their personal computers (PCs).
- Be alert to threats and vulnerabilities in the security of the system.
- Report all security incidents to their local Information System Security Officer (ISSO)
- Differentiate tasks and functions to ensure that no one person has sole access to or control over important resources.
- Protect all sensitive data entrusted to them as part of their government employment.

- Abide by all Department and Agency policies and procedures and guidelines related to ethics, conduct, behavior, and information technology (IT) information processes.

E.1.4 Confidentiality

RPMS users shall:

- Be aware of the sensitivity of electronic and hard copy information, and protect it accordingly.
- Store hard copy reports/storage media containing confidential information in a locked room or cabinet.
- Erase sensitive data on storage media prior to reusing or disposing of the media.
- Protect all RPMS terminals from public viewing at all times.
- Abide by all Health Insurance Portability and Accountability Act (HIPAA) regulations to ensure patient confidentiality.

RPMS users shall not:

- Allow confidential information to remain on the PC screen when someone who is not authorized to that data is in the vicinity.
- Store sensitive files on a portable device or media without encrypting.

E.1.5 Integrity

RPMS users shall:

- Protect their systems against viruses and similar malicious programs.
- Observe all software license agreements.
- Follow industry standard procedures for maintaining and managing RPMS hardware, operating system software, application software, and/or database software and database tables.
- Comply with all copyright regulations and license agreements associated with RPMS software.

RPMS users shall not:

- Violate federal copyright laws.
- Install or use unauthorized software within the system libraries or folders.
- Use freeware, shareware, or public domain software on/with the system without their manager's written permission and without scanning it for viruses first.

E.1.6 System Logon

RPMS users shall:

- Have a unique User Identification/Account name and password.
- Be granted access based on authenticating the account name and password entered.
- Be locked out of an account after five successive failed login attempts within a specified time period (e.g., one hour).

E.1.7 Passwords

RPMS users shall:

- Change passwords a minimum of every 90 days.
- Create passwords with a minimum of eight characters.
- If the system allows, use a combination of alpha-numeric characters for passwords, with at least one uppercase letter, one lower case letter, and one number. It is recommended, if possible, that a special character also be used in the password.
- Change vendor-supplied passwords immediately.
- Protect passwords by committing them to memory or store them in a safe place (do not store passwords in login scripts or batch files).
- Change passwords immediately if password has been seen, guessed, or otherwise compromised, and report the compromise or suspected compromise to their ISSO.
- Keep user identifications (IDs) and passwords confidential.

RPMS users shall not:

- Use common words found in any dictionary as a password.
- Use obvious readable passwords or passwords that incorporate personal data elements (e.g., user's name, date of birth, address, telephone number, or social security number; names of children or spouses; favorite band, sports team, or automobile; or other personal attributes).
- Share passwords/IDs with anyone or accept the use of another's password/ID, even if offered.
- Reuse passwords. A new password must contain no more than five characters per eight characters from the previous password.
- Post passwords.
- Keep a password list in an obvious place, such as under keyboards, in desk drawers, or in any other location where it might be disclosed.
- Give a password out over the phone.

E.1.8 Backups

RPMS users shall:

- Plan for contingencies such as physical disasters, loss of processing, and disclosure of information by preparing alternate work strategies and system recovery mechanisms.
- Make backups of systems and files on a regular, defined basis.
- If possible, store backups away from the system in a secure environment.

E.1.9 Reporting

RPMS users shall:

- Contact and inform their ISSO that they have identified an IT security incident and begin the reporting process by providing an IT Incident Reporting Form regarding this incident.
- Report security incidents as detailed in the *IHS Incident Handling Guide* (SOP 05-03).

RPMS users shall not:

- Assume that someone else has already reported an incident. The risk of an incident going unreported far outweighs the possibility that an incident gets reported more than once.

E.1.10 Session Timeouts

RPMS system implements system-based timeouts that back users out of a prompt after no more than 5 minutes of inactivity.

RPMS users shall:

- Utilize a screen saver with password protection set to suspend operations at no greater than 10 minutes of inactivity. This will prevent inappropriate access and viewing of any material displayed on the screen after some period of inactivity.

E.1.11 Hardware

RPMS users shall:

- Avoid placing system equipment near obvious environmental hazards (e.g., water pipes).
- Keep an inventory of all system equipment.
- Keep records of maintenance/repairs performed on system equipment.

RPMS users shall not:

- Eat or drink near system equipment.

E.1.12 Awareness

RPMS users shall:

- Participate in organization-wide security training as required.
- Read and adhere to security information pertaining to system hardware and software.
- Take the annual information security awareness.
- Read all applicable RPMS manuals for the applications used in their jobs.

E.1.13 Remote Access

Each subscriber organization establishes its own policies for determining which employees may work at home or in other remote workplace locations. Any remote work arrangement should include policies that:

- Are in writing.
- Provide authentication of the remote user through the use of ID and password or other acceptable technical means.
- Outline the work requirements and the security safeguards and procedures the employee is expected to follow.
- Ensure adequate storage of files, removal, and nonrecovery of temporary files created in processing sensitive data, virus protection, and intrusion detection, and provide physical security for government equipment and sensitive data.
- Establish mechanisms to back up data created and/or stored at alternate work locations.

Remote RPMS users shall:

- Remotely access RPMS through a virtual private network (VPN) whenever possible. Use of direct dial in access must be justified and approved in writing and its use secured in accordance with industry best practices or government procedures.

Remote RPMS users shall not:

- Disable any encryption established for network, internet, and Web browser communications.

E.2 RPMS Developers

RPMS developers shall:

- Always be mindful of protecting the confidentiality, availability, and integrity of RPMS when writing or revising code.
- Always follow the IHS RPMS Programming Standards and Conventions (SAC) when developing for RPMS.
- Only access information or code within the namespaces for which they have been assigned as part of their duties.
- Remember that all RPMS code is the property of the U.S. Government, not the developer.
- Not access live production systems without obtaining appropriate written access and shall only retain that access for the shortest period possible to accomplish the task that requires the access.
- Observe separation of duties policies and procedures to the fullest extent possible.
- Document or comment all changes to any RPMS software at the time the change or update is made. Documentation shall include the programmer's initials, date of change, and reason for the change.
- Use checksums or other integrity mechanism when releasing their certified applications to assure the integrity of the routines within their RPMS applications.
- Follow industry best standards for systems they are assigned to develop or maintain and abide by all Department and Agency policies and procedures.
- Document and implement security processes whenever available.

RPMS developers shall not:

- Write any code that adversely impacts RPMS, such as backdoor access, "Easter eggs," time bombs, or any other malicious code or make inappropriate comments within the code, manuals, or help frames.
- Grant any user or system administrator access to RPMS unless proper documentation is provided.
- Release any sensitive agency or patient information.

E.3 Privileged Users

Personnel who have significant access to processes and data in RPMS, such as, system security administrators, systems administrators, and database administrators, have added responsibilities to ensure the secure operation of RPMS.

Privileged RPMS users shall:

- Verify that any user requesting access to any RPMS system has completed the appropriate access request forms.
- Ensure that government personnel and contractor personnel understand and comply with license requirements. End users, supervisors, and functional managers are ultimately responsible for this compliance.
- Advise the system owner on matters concerning information technology security.
- Assist the system owner in developing security plans, risk assessments, and supporting documentation for the certification and accreditation process.
- Ensure that any changes to RPMS that affect contingency and disaster recovery plans are conveyed to the person responsible for maintaining continuity of operations plans.
- Ensure that adequate physical and administrative safeguards are operational within their areas of responsibility and that access to information and data is restricted to authorized personnel on a need-to-know basis.
- Verify that users have received appropriate security training before allowing access to RPMS.
- Implement applicable security access procedures and mechanisms, incorporate appropriate levels of system auditing, and review audit logs.
- Document and investigate known or suspected security incidents or violations and report them to the ISSO, Chief Information Security Officer (CISO), and systems owner.
- Protect the supervisor, superuser, or system administrator passwords.
- Avoid instances where the same individual has responsibility for several functions (i.e., transaction entry and transaction approval).
- Watch for unscheduled, unusual, and unauthorized programs.
- Help train system users on the appropriate use and security of the system.
- Establish protective controls to ensure the accountability, integrity, confidentiality, and availability of the system.
- Replace passwords when a compromise is suspected. Delete user accounts as quickly as possible from the time that the user is no longer authorized system. Passwords forgotten by their owner should be replaced, not reissued.
- Terminate user accounts when a user transfers or has been terminated. If the user has authority to grant authorizations to others, review these other authorizations. Retrieve any devices used to gain access to the system or equipment. Cancel logon IDs and passwords, and delete or reassign related active and backup files.

- Use a suspend program to prevent an unauthorized user from logging on with the current user's ID if the system is left on and unattended.
- Verify the identity of the user when resetting passwords. This can be done either in person or having the user answer a question that can be compared to one in the administrator’s database.
- Shall follow industry best standards for systems they are assigned to, and abide by all Department and Agency policies and procedures.

Privileged RPMS users shall not:

- Access any files, records, systems, etc., that are not explicitly needed to perform their duties
- Grant any user or system administrator access to RPMS unless proper documentation is provided.
- Release any sensitive agency or patient information.

Acronym List

Acronym	Term Meaning
AACE/ACE	American Association of Clinical Endocrinologists/American College of Endocrinology
AAP	American Academy of Pediatrics
ACC	American College of Cardiology
ACCF	American College of Cardiology Foundation
ACE	Angiotensin-Converting Enzyme
ACIP	Advisory Committee on Immunization Practices
ACOG	American College of Obstetricians and Gynecologists
ADA	American Diabetes Association
ADE	Adverse Drug Event
AHA	American Heart Association
AHRQ	Agency for Healthcare Research and Quality
AIDS	Acquired Immunodeficiency Syndrome
AMA	Against Medical Advice
AMI	Acute Myocardial Infarction
AOD	Alcohol or Other Drug abuse
ARB	Angiotensin Receptor Blocker
ART	Antiretroviral therapy

Acronym	Term Meaning
ASCVD	Atherosclerotic Cardiovascular Disease
BDI	Beck Depression Inventory
BMI	Body Mass Index
CAH	Critical Access Hospital
CDC	Centers for Disease Control and Prevention
CEHR	Certified Electronic Health Record
CES-D	Center for Epidemiologic Studies
CMS	Centers for Medicare and Medicaid Services
CPT	Current Procedural Terminology
CVD	Cardiovascular Disease
CY	Calendar Year
DBT	Digital Breast Tomosynthesis
DTaP	Diphtheria, Tetanus and Acellular Pertussis
DVT	Deep Vein Thrombosis
ECG	Electrocardiogram
eCQI	Electronic Clinical Quality Improvement
eCQM	Electronic Clinical Quality Measures
ED	Emergency Department
EGA	Estimated Gestational Age
EH	Eligible Hospital
EP	Eligible Professional
ER	Emergency Room
ESRD	End Stage Renal Disease

Acronym	Term Meaning
FDA	Food and Drug Administration
FOBT	Fecal Occult Blood Test
GCS	Graduated Compression Stockings
GDMT	Guideline-Directed Medical Therapy
GLAD-PC	Guidelines for Adolescent Depression in Primary Care
HbA1c	Hemoglobin A1c
HBIG	Hepatitis B Immune Globulin
HF	Heart Failure
HFrEF	Heart Failure with reduced Ejection Fraction
HHS	Health and Human Services
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
ICD	International Classification of Diseases
ICSI	Institute for Clinical Systems Improvement
ICU	Intensive Care Unit
IHS	Indian Health Service
IIV	Inactivated Influenza Vaccine
LDL-C	Low-Density Lipoprotein Cholesterol
LOINC	Logical Observation Identifiers Names and Codes
LVEF	Left Ventricular Ejection Fraction
MDD	Major Depressive Disorder

Acronym	Term Meaning
MDE	Major Depressive Episode
MMR	Measles, Mumps, and Rubella
NHANES	National Health and Nutrition Examination Survey
NHLBI	National Heart Lung and Blood Institute
NQF	National Quality Forum
NVAF	Nonvalvular Atrial Fibrillation
OB/GYN	Obstetrician/Gynecologist
PCI	Percutaneous Coronary Intervention
PCP	Primary Care Provider
PE	Pulmonary Embolism
POV	Purpose of Visit
QRDA	Quality Reporting Data Architecture
RPMS	Resource and Patient Management System
RV	Rotavirus
SCIP	Surgical Care Improvement Project
SNOMED-CT	Systematized Nomenclature of Medicine – Clinical Terms
SSRI	Selective Serotonin Reuptake Inhibitor
STEMI	ST-Segment Myocardial Infarction
TIA	Transient Ischemic Attack
UACR	Urinary Albumin-to-Creatinine Ratio
USHIK	United States Health Information Knowledgebase

Acronym	Term Meaning
USPSTF	U.S. Preventive Services Task Force
VSAC	Value Set Authority Center
VTE	Venous Thromboembolism

Contact Information

If you have any questions or comments regarding this distribution, please contact the IHS IT Service Desk.

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