



RESOURCE AND PATIENT MANAGEMENT SYSTEM

# **Electronic Clinical Quality Measures Engine**

(ECQM)

## **Measure Guidance Manual**

Version 4.0  
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Office of Information Technology  
Division of Information Technology

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# Revision History

Version	Date	Author	Section	Page Number	Summary of Change

## 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 hospitals (EH), and critical access hospitals (CAH) provide. 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

Measures will need to be updated for the 2022 and subsequent reporting periods.

The 2021 reporting period for EHs and CAHs has been increased to two self-selected quarters of calendar year (CY) data (increased from one in 2020). In 2022 this increases to three quarters, and in 2023 to four quarters (full year).

The number of eCQM required for hospitals has not changed for 2021 (four, chosen from a list of available eCQM). CMS has added a new eCQM, “Safe Use of Opioids – Concurrent Prescribing” for 2021 and made this mandatory starting in 2022.

The 2021 eCQM reporting period for providers (EP) is any continuous 90-day period between January 1, 2021, and August 1, 2021. 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.

For the 2015 Certified RPMS EHR, a total of 9 EH/CAH eCQMs and 33 EP eCQMs were selected for inclusion based on user input. IHS requested that nine retired measures continue to be calculated based on the 2019 measure logic so that sites can track their performance over time for quality improvement. Selected EH/CAH eCQM included in the 2015 Certified RPMS EHR (For the 2021 Reporting Period):

**Note:** The first nine eCQMs are those included by CMS for 2021. Four of these must be chosen by the site. The additional eCQMs are included for use in other quality programs.

- CMS9v9 Exclusive Breast Milk Feeding
- CMS71v10 Anticoagulation Therapy for Atrial Fibrillation/Flutter
- CMS72v9 Antithrombotic Therapy By End of Hospital Day 2
- CMS104v9 Discharged on Anti-thrombotic Therapy
- CMS105v9 Discharged on Statin Medication
- CMS108v9 Venous Thromboembolism Prophylaxis
- CMS111v9 Median Admit Decision Time to ED Departure Time for Admitted Patients
- CMS190v9 Intensive Care Unit Venous Thromboembolism Prophylaxis
- CMS 506v3 Safe Use of Opioids – Concurrent Prescribing

Additional retired quality measures not included in CMS reporting for 2021:

- CMS26v6 Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver
- CMS31v7 Newborn Hearing Screening Prior to Hospital Discharge
- CMS32v8 Median Time from ED Arrival to ED Departure for Discharged ED Patients
- CMS53v7 Primary PCI Received within 90 Minutes of Hospital Arrival
- CMS55v7 Median Time from ED Arrival to ED departure for Admitted ED Patients
- CMS102v7 Assessed for Rehabilitation
- CMS107v7 Stroke Education
- CMS113v7 Elective Delivery

**Selected EP eCQMs included in the 2015 Certified RPMS EHR (For the 2021 Reporting Period)**

- CMS2v10 Preventive Care & Screening: Screening for Clinical Depression and Follow-up
- CMS22v9 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented
- CMS50v9 Closing Referral Loop: Receipt of Specialist Report
- CMS69v9 Preventive Care & Screening: Body Mass Index (BMI) Screening and Follow-up
- CMS117v9 Childhood Immunization Status
- CMS122v9 Hemoglobin A1c (HbA1c) Poor Control (>9%)
- CMS124v9 Cervical Cancer Screening
- CMS125v9 Breast Cancer Screening
- CMS127v9 Pneumococcal Vaccination Status for Older Adults
- CMS130v9 Colorectal Cancer Screening
- CMS131v9 Diabetes: Eye Exam
- CMS134v9 Diabetes: Medical Attention for Nephropathy
- CMS137v9 Initiation and Engagement of Alcohol and Other Drug Dependence Treatment
- CMS138v9 Preventive Care & Screening: Tobacco Use: Screening and Cessation Intervention
- CMS139v9 Falls: Screening for Future Fall Risk

- CMS144v9 Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction
- CMS 147v10 Preventive Care and Screening: Influenza Immunization
- CMS155v9 Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents
- CMS156v9 Use of High-Risk Medications in Older Adults
- CMS159v9 Depression Remission at Twelve Months
- CMS161v9 Adult Major Depressive Disorder: Suicide Risk Assessment
- CMS165v9 Controlling High Blood Pressure
- CMS177v9 Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment
- CMS347v4 Statin Therapy for the Prevention and Treatment of Cardiovascular Disease
- CMS349v3 HIV Screening

Additional retired quality measure not included in CMS reporting for 2021:

- 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. Note that the 2021 measures include two additional views, “Terminology” and “Data Criteria” as these were added in 2021. Older measures, included in 2020, display “Value Sets” instead.

- 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 trouble shooting 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 2021 Reporting Period)

### 2.1 CMS9v9 Exclusive Breast Milk Feeding

#### 2.1.1 Detail

<b>Description:</b>	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.
<b>Rationale:</b>	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.
<b>Clinical Recommendation Statement:</b>	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.
<b>Improvement Notation:</b>	Improvement noted as an increase in the rate

<b>Description:</b>	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.
<b>Guidance</b>	<p>A discharge to a designated cancer center or children's hospital should be captured as a discharge to an acute care facility. It is acceptable to calculate Gestational Age using the American College of Obstetricians and Gynecologists ReVITALize guidelines, which define Gestational Age as calculated using the best obstetrical Estimated Due Date (EDD) based on the formula:</p> $\text{Gestational Age} = (280 - (\text{EDD} - \text{Reference Date})) / 7$ <p>where Reference Date is the date on which you are trying to determine gestational age. For PC-05, Reference Date is the Birth Date.</p> <p>Note however that the calculation may yield a non-whole number and gestational age should be rounded off to the nearest completed week. For example, an infant born on the 5th day of the 36th week (35 weeks and 5/7 days) is at a gestational age of 35 weeks, not 36 weeks.</p> <p>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.</p> <p>This eCQM is an episode-based measure.</p>
<b>Initial Population:</b>	<p>Inpatient hospitalizations for single newborns who were born in the hospital that ends during the measurement period, and with either of the following conditions:</p> <ul style="list-style-type: none"> <li>- An estimated gestational age at birth of <math>\geq 37</math> weeks</li> <li>- Birth weight <math>\geq 3000</math> grams without an estimated gestational age at birth</li> </ul>
<b>Denominator</b>	Initial Population
<b>Denominator Exclusions</b>	<p>Inpatient hospitalizations for newborns who were with any of the following conditions:</p> <ul style="list-style-type: none"> <li>• admitted to the Neonatal Intensive Care Unit (NICU)</li> <li>• transferred to an acute care facility, or other health care facility</li> <li>• expired during the hospitalization</li> <li>• a length of stay greater than 120 days that ends during the measurement period</li> <li>• a diagnosis of galactosemia</li> <li>• subject to parenteral nutrition</li> </ul>
<b>Numerator</b>	Inpatient hospitalizations for newborns who were fed breast milk only since birth
<b>Supplemental Data Elements:</b>	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."

- Gestational Age = or > than 37 weeks (document triage tab, personal health, birth measurements), OR Birth Weight  $\geq$  3000 gm (document triage tab, vitals entry or birth measurement).

**Update Birth Measurements**

To enter Birth Weight in lbs and ozs, enter two values separated by a space. Also you can enter K after the value for kilograms (kg), and likewise for grams enter G after the value.

Examples: 7 2 for 7 lbs 2 ozs  
3.2K for 3.2 kilograms  
3200G for 3200 grams

Birth Weight  (lbs oz)

Birth Order

Feeding Choices must contain a number and then either a D for Days, W for Weeks, M for Months or Y for years.

Formula Started

Breast Feeding Stopped

Solids Started

Gestational Age in Weeks, type a Number between 12 and 50 (no decimals)

Gestational Age  (weeks)

Mother or Guardian  ...

Figure 2-1: Update Birth Measurements

- Excluded if diagnosis “Galactosemia”, parenteral nutrition, or prolonged length of stay (>120 days).
- Excluded if admitted to NICU, expires during hospitalization, or transfer to acute care facility.
- Enter Infant Feeding on Triage Tab, “Exclusive Breast Feeding” to include in numerator.

The screenshot shows the 'Triage' tab in the ECQM interface. The 'Infant Feeding' section is active, and the 'Infant Feeding Choice' dialog box is open. The dialog box contains the following options:

- Exclusively Breastfeed
- 1/2 Breast 1/2 Formula
- Formula only
- Mostly Breastfeed
- Mostly Breastfeed, some Formula
- Mostly Formula, some Breastfeed
- Mostly Formula

Secondary Fluids section:

- Milk
- Fruit juice
- Carbonated drink
- Sports drink
- Glucose
- Water

Buttons: Save, Cancel

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 "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)

## 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)"
- "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 CMS26v6 Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver

### 2.2.1 Detail

<b>Description:</b>	An assessment that there is documentation in the medical record that a Home Management Plan of Care (HMPC) document was given to the pediatric asthma patient/caregiver
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<b>Rationale:</b>	<p>Asthma is the most common chronic disease in children and a major cause of morbidity and health care costs nationally (Adams, et al, 2001). In 2005, 5.2% of children with asthma had at least one asthma attack in the previous year (3.8 million children). Nearly two of every three children who currently have asthma had at least one attack in the past 12 months. Chronic asthma in children can account for an annual loss of more than 14 million school days per year, according to the Asthma and Allergy Foundation (Asthma Facts and Figures).</p> <p>It is clear from multiple sources of evidence including the National Heart Lung and Blood Institute (NHLBI) Guidelines that actual self-management of asthma by the patient or caregiver leads to more positive outcomes. Appropriate self-management is completely reliant upon patient education. Patient education is more effective when it aims at training self-management skills that will alter behavior (Norris, et al, 2001).</p>
<b>Rationale (cont.)</b>	<p>NHLBI notes that review of asthma management by expert clinicians is necessary but not sufficient to improve outcomes. Active learning, participating and verbalization of understanding are all strategies that a healthcare organization must incorporate with parents or caregivers of asthmatic children in order for them to understand and make the appropriate changes that can impact the disease in the child in question. Education programs have been effective in improving lung function, feelings of self-esteem, and consequently decreased missed days of school in children and adolescents (Phipatanakul, 2004). Acute hospitalization follow up is imperative to a successful discharge from the hospital, providing the caretaker with the resource information needed to contact the follow up facility, medical office or clinic setting (Schatz, et al, 2009).</p> <p>Environmental control consists of removal of asthma triggers from the environment. Multiple studies support the positive correlation of household maintenance factors such as control of cockroach dust, and the number of acute asthma attacks in asthmatic children (McConnell, et al, 2005 and Eggleston, et al, 2005). Evidence from Carter et al, (2001) supported by the National Institute of Health (NIH) grant found specifically that reduction in triggers such as household conditions i.e., dust mites, cockroach, cats and presence of molds and fungus, resulted in a decrease in acute care visits and an overall positive outcome of children.</p> <p>Rescue action education related to early recognition of symptoms and proper action to control incidence of asthma attacks is noted to have positive outcomes for asthmatic children (Ducharme and Bhogal, 2008).</p>
<b>Clinical Recommendation Statement:</b>	<p>Under-treatment and/or inappropriate treatment of asthma are recognized as major contributors to asthma morbidity and mortality. National guidelines for the diagnosis and management of asthma in children, recommend establishing a plan for maintaining control of asthma and for establishing plans for managing exacerbation.</p>

<b>Guidance:</b>	<p>The home management plan of care document should be a separate and patient-specific written instruction. The document must be present in the form of an explicit and separate document specific to the patient rather than components or segments of the plan spread across discharge instruction sheets, discharge orders, education sheets, or other instruction sheets.</p> <p>The home management plan of care is represented in the eMeasure logic by a Logical Observation Identifiers Names and Codes (LOINC) for an asthma action plan document. This form, or equivalent, contains most of the components required for the home management plan of care, including information on:</p> <p>Methods and timing of rescue actions: the home management plan of care addresses what to do if asthma symptoms worsen after discharge, including all of the following:</p> <p>When to take action, i.e., assessment of severity (e.g., peak flow meter reading, signs and symptoms to watch for).</p> <p>What specific steps to take, i.e., initial treatment instructions (e.g., inhaled relievers up to three treatments of 2-4 puffs by MDI at 20-minute intervals or single nebulizer treatment).</p> <p>Contact information to be used when an asthma attack occurs or is about to occur.</p> <p>Appropriate use of long-term asthma medications (controllers), including the medication name, dose, frequency, and method of administration.</p> <p>Appropriate use of rescue, quick-relief, or short acting medications of choice to quickly relieve asthma exacerbations (relievers), including the medication name, dose, frequency, and method of administration.</p> <p>Environmental control and control of other triggers: information on avoidance or mitigation of environmental and other triggers.</p> <p>The home management plan of care can only be considered to comply with the criteria outlined in the measure logic if it meets the requirements outlined above and is appropriately filled-out with information specific to the patient.</p> <p>Patient refusal includes refusal by a caregiver. The caregiver is defined as the patient's family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.</p> <p>The "Discharge To Home Or Police Custody" value set also intends to capture the following discharge disposition values:</p> <p>Assisted Living Facilities</p> <p>Court/Law Enforcement - includes detention facilities, jails, and prison</p> <p>Home - includes board and care, foster or residential care, group or personal care homes, and homeless shelters</p> <p>Home with Home Health Services</p> <p>Outpatient Services including outpatient procedures at another hospital, Outpatient Chemical Dependency Programs and Partial Hospitalization.</p>
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<b>Initial Population:</b>	Pediatric asthma inpatients with an age of 2 through 17 years, and length of stay less than or equal to 120 days that ends during the measurement period.
<b>Denominator:</b>	Patients discharged to home or police custody.
<b>Denominator Exclusions:</b>	None
<b>Numerator:</b>	<p>Pediatric asthma inpatients with either of the following: Documentation that they or their caregivers were given a written Home Management Plan of Care (HMPC) document that addresses all of the following:</p> <ul style="list-style-type: none"> <li>• Arrangements for follow-up care</li> <li>• Environmental control and control of other triggers</li> <li>• Method and timing of rescue actions</li> <li>• Use of controllers</li> <li>• Use of relievers</li> </ul> <p>Pediatric asthma inpatients with documentation that they or their caregivers refused a written Home Management Plan of Care (HMPC) document. Patient refusal includes refusal by a caregiver. The caregiver is defined as the patient's family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.</p>
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.2.2 Data Entry

<b>Description:</b>	An assessment that there is documentation in the medical record that a Home Management Plan of Care (HMPC) document was given to the pediatric asthma patient/caregiver.
---------------------	--

1. Admit Patient 2-17 y/o to hospital, diagnosis = Asthma (Inpatient coder codes).

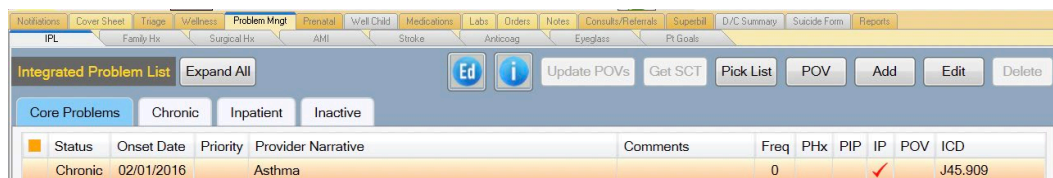


Figure 2-3: Integrated Problem List

2. Enter Self-Management Plan from Patient Education, Asthma, Self-Management. Can also select **refused** in comprehension level.

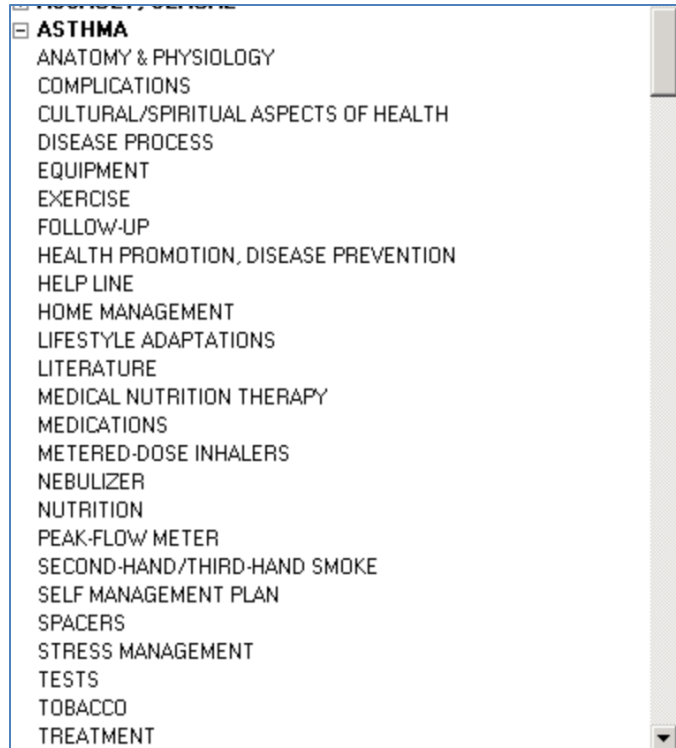


Figure 2-4: Self-Management Plan

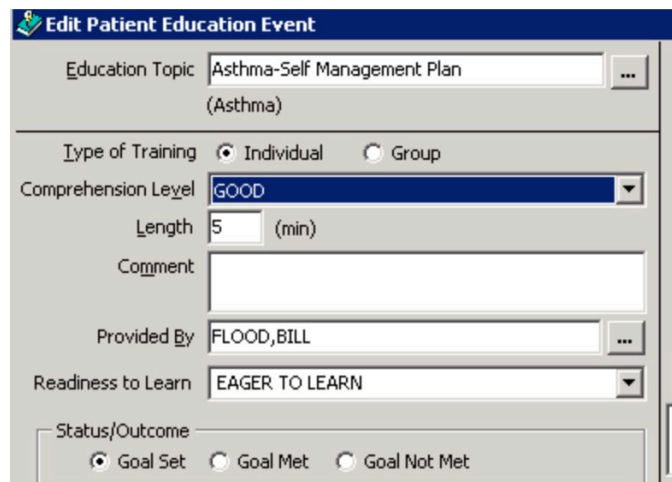


Figure 2-5: Edit Patient Education Event dialog

The screenshot shows a dialog box titled "Edit Patient Education Event". It contains the following fields and options:

- Education Topic:** A text box containing "Asthma-Self Management Plan" with "(Asthma)" below it.
- Type of Training:** Radio buttons for "Individual" (selected) and "Group".
- Comprehension Level:** A dropdown menu showing "REFUSED".
- Length:** A text box with "(min)" next to it.
- Comment:** A large empty text area.
- Provided By:** A text box containing "FLOOD,BILL".
- Readiness to Learn:** A dropdown menu showing "UNRECEPTIVE".

Figure 2-6: Completing Edit Patient Education Event dialog-Patient Refusal

- When discharged, discharge to Home or Police Custody (ADT Package), hospital stay less than 120 days.

### 2.2.3 Value Sets

- Encounter, Performed: Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Patient Characteristic Ethnicity: Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race"(2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex (2.16.840.1.113762.1.4.1)"
- "Communication: From Provider To Patient, Not Done: Asthma action plan (LOINC version 2.63 Code 69981-9)"
- "Communication: From Provider To Patient: Asthma action plan (LOINC version 2.63 Code 69981-9)"
- valueset "Asthma" using "2.16.840.1.113883.3.117.1.7.1.271"
- valueset "Discharge To Home Or Police Custody" using "2.16.840.1.113883.3.117.1.7.1.82"
- valueset "Patient Refusal" using "2.16.840.1.113883.3.117.1.7.1.93"

## 2.3 CMS31v7 Hearing Screening Prior To Hospital Discharge

### 2.3.1 Detail

<b>Description:</b>	This measure assesses the proportion of births that have been screened for hearing loss before hospital discharge.
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<b>Rationale:</b>	Birthing facility staff should review the effectiveness and timeliness of screening relative to nursery discharge. Benchmarks set within the EHCP may trigger hospital or jurisdictional compliance activities, such as re-writing of procedural guidelines or re-training of screening staff.
<b>Improvement Notation:</b>	Improvement noted as an increase in rate.
<b>Guidance:</b>	Complete hearing screening is defined as having both ears screened during the inpatient encounter. The Medical Reasons value set (OID 2.16.840.1.114222.4.1.214079.1.1.7) includes SNOMED codes to capture medical contraindications, surgical contraindications, and not indicated because there is a reason to withhold a certain medical procedure/treatment because it could harm a patient. A comprehensive list of codes for these conditions is not available because the judgement is often subjective. This value set is not intended to be used for other reasons a screening was not performed, such as parent refusal, technical failure, or a missed procedure.
<b>Transmission Format:</b>	TBD
<b>Initial Population:</b>	Live birth encounters at a hospital or birthing facility where the newborn was discharged with hospital stays <= 120 days that ends during the measurement period.
<b>Denominator:</b>	Denominator is equal to the Initial Population.
<b>Denominator Exclusions:</b>	A live birth encounter where the newborn expires prior to discharge and has not received a complete hearing screening.
<b>Numerator:</b>	A live birth encounter where a complete newborn hearing screening is performed prior to discharge, or the newborn is not screened due to medical reasons.
<b>Numerator Exclusions:</b>	Not applicable
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 2.3.2 Data Entry

<b>Description:</b>	This measure assesses the proportion of births that have been screened for hearing loss before hospital discharge
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1. Admit patient, Diagnosis = Live Newborn Born in Hospital.

Problem	is a relationship	Mapped ICD
Livebirth born before admission to hospital	is a Born before arrival to hospital (situation)	Z38.1
Liveborn born in hospital	is a Birth history (situation)	Z38.00
Liveborn born in hospital by cesarean section	is a Born by cesarean section (situation) is a Liveborn born in hospital (situation)	Z38.01
Multiple liveborn other than twins born in hospital	is a Liveborn born in hospital (situation)	Z37.50
Single liveborn born in hospital by cesarean section	is a Liveborn born in hospital by cesarean section (situation)	Z38.01
Single liveborn born in hospital by vaginal delivery	is a Liveborn born in hospital (situation)	Z38.00
Singleton liveborn born in hospital	is a Liveborn born in hospital (situation)	Z37.0
Twin liveborn born in hospital	is a Liveborn born in hospital (situation)	Z38.30
Twin liveborn born in hospital by cesarean section	is a Liveborn born in hospital by cesarean section (situation) is a Twin liveborn born in hospital (situation)	Z38.31

Figure 2-7: SNOMED assessment

2. During hospitalization, do Hearing Left and Right (Wellness Tab, Exams, Newborn Hearing Screen, enter Pass or Referral Needed for both ears).

Figure 2-8: Education tab

3. If NOT done for Medical reasons:
  - a. On the **Triage** tab, **Personal Health**, select **Refusal**.

Figure 2-9: Triage tab

- b. Select **Refusal Type = Exam**.

The screenshot shows a dialog box titled "Enter Service Not Provided / Refusal". It contains a section labeled "Refusal Type" with a list of checkboxes. The "Exam" checkbox is checked and highlighted in blue. Other options include CPT, EKG, Immunization, Lab, Mammogram, Measurement, Medication/Drug, PAP Smear, Radiology Exam, Skin Test, and SNOMED.

Refusal Type	
<input type="checkbox"/> CPT	<input type="checkbox"/> Measurement
<input type="checkbox"/> EKG	<input type="checkbox"/> Medication/Drug
<input checked="" type="checkbox"/> Exam	<input type="checkbox"/> PAP Smear
<input type="checkbox"/> Immunization	<input type="checkbox"/> Radiology Exam
<input type="checkbox"/> Lab	<input type="checkbox"/> Skin Test
<input type="checkbox"/> Mammogram	<input type="checkbox"/> SNOMED

Figure 2-10: Refusal Type

c. Select **Newborn Hearing Screen** (left and right).

The screenshot shows a dropdown menu titled "Select one of the following records". The "Exam" option is selected, and the dropdown list is open, showing various exam types. "NEWBORN HEARING SCREEN (LEFT)" and "NEWBORN HEARING SCREEN (RIGHT)" are visible in the list.

Select one of the following records
Exam ▲
FALL RISK
FOOT EXAM - GENERAL
FOOT INSPECTION
INTIMATE PARTNER VIOLENCE
NEWBORN HEARING SCREEN (LEFT)
NEWBORN HEARING SCREEN (RIGHT)
NUTRITIONAL RISK SCREENING
SUICIDE RISK ASSESSMENT
SUICIDE SCREENING EXAM

Figure 2-11: Exam types

d. Choose **reason for refusal** = medical **contraindicated**.

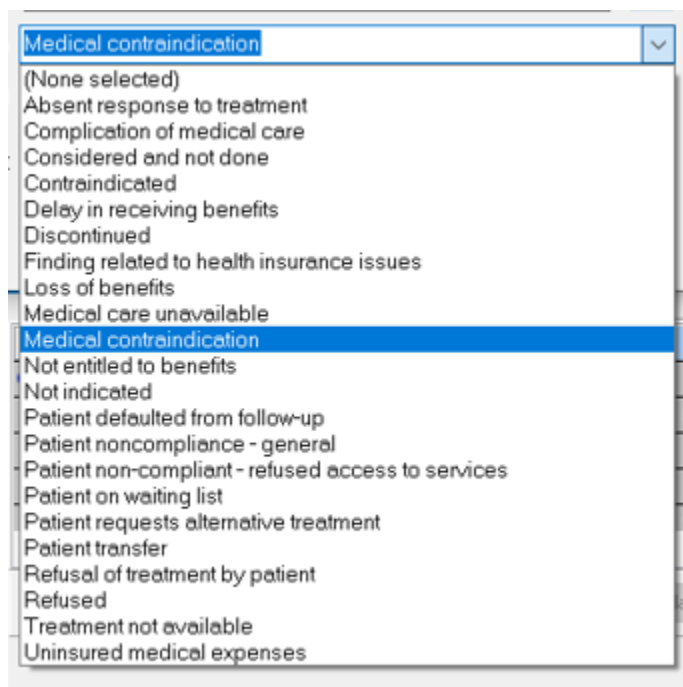


Figure 2-12: Reason for Refusal

4. Discharge patient (must be less than 120 days and end during measurement period).

### 2.3.3 Value Sets

- "Diagnosis: Live Birth Newborn Born in Hospital" (2.16.840.1.113762.1.4.1046.6)"
- "Diagnostic Study, Not Performed: Newborn Hearing Screen Left" (2.16.840.1.114222.4.1.214079.1.1.3)"
- "Diagnostic Study, Not Performed: Newborn Hearing Screen Right" (2.16.840.1.114222.4.1.214079.1.1.4)"
- "Diagnostic Study, Performed: Newborn Hearing Screen Left" (2.16.840.1.114222.4.1.214079.1.1.3)"
- "Diagnostic Study, Performed: Newborn Hearing Screen Right" (2.16.840.1.114222.4.1.214079.1.1.4)"
- "Encounter, Performed: Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)"
- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"

- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"
- valueset "Medical Reasons" using "2.16.840.1.114222.4.1.214079.1.1.7"
- codesystem "SNOMEDCT" using "2.16.840.1.113883.6.96 version 2017-09"
- code "Patient deceased during stay (discharge status = dead) (finding)" using "SNOMEDCT version 2017-09 Code (371828006)"

## 2.4 CMS32v8 Median Time from ED Arrival to ED Departure for Discharged ED Patients

### 2.4.1 Detail

<b>Description:</b>	Median elapsed time from ED arrival to Emergency Room (ER) departure for patients discharged from the ED.
<b>Stratification:</b>	Report total score and the following strata: Stratification 1 - all patients with principal diagnosis consistent with mental disorders. Stratification 2 - all patients transferred to another acute care hospital. Stratification 3 - all patients who do not have a principal diagnosis consistent with mental disorders and who are not transferred.
<b>Rate Aggregation:</b>	Calculate the ED encounter duration at the facility in minutes 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 length of time the patient was in the ED, also stated as: the Datetime difference between the ED facility location departure time and the ED facility location arrival time. The calculation requires the median across all ED encounter durations.



<b>Rationale:</b>	<p>In recent times, EDs have experienced significant overcrowding. Although once only a problem in large, urban, teaching hospitals, the phenomenon has spread to other suburban and rural healthcare organizations. According to a 2002 national U.S. survey, more than 90 percent of large hospitals report EDs operating "at" or "over" capacity. Overcrowding and heavy emergency resource demand have led to a number of problems, including ambulance refusals, prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes. Approximately one third of hospitals in the U.S. report increases in ambulance diversion in a given year, whereas up to half report crowded conditions in the ED. In a recent national survey, 40 percent of hospital leaders viewed ED crowding as a symptom of workforce shortages. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised.</p>
<b>Clinical Recommendation Statement:</b>	<p>Reducing the time patients remain in the ED can improve access to treatment and increase quality of care. Reducing this time potentially improves access to care specific to the patient condition and increases the capability to provide additional treatment.</p>
<b>Guidance:</b>	<p>This measure uses a continuous variable. The specification provides elements from the clinical electronic record required to calculate for each ED encounter, i.e., the length of time the patient was in the ED, also stated as: the ED departure time minus the ED arrival time. The calculation requires the median of all ED encounter durations. This measure specification defines how to determine an individual ED stay. Reporting requires the median of all patient stays ([Encounter: encounter ED].facility location departure date and time minus [Encounter: encounter ED].facility location arrival date and time).</p> <p>For each population, results should be reported without stratification and then with each stratum applied. For this measure, the number of encounters that fall into the Initial Population are reported without stratification, then reported according to the defined stratification. The number of encounters that fall into the Measure Population are reported without stratification, then reported according to the defined stratification. The computed continuous variable defined by the Measure Observation is reported for the Measure Population also, then reported according to the defined stratification.</p>
<b>Initial Population:</b>	<p>ED encounters during the measurement period.</p>
<b>Measure Population Exclusions:</b>	<p>ED encounters where the patient expired during the encounter or where the ED visit is followed within an hour by an inpatient encounter at the same physical facility.</p>

<b>Measure Observations:</b>	Median elapsed time (in minutes) from ED arrival to ER departure or for patients placed in observation services, use the time of the order for observation for ED departure for patients discharged from the ED.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.4.2 Data Entry

<b>Description:</b>	Median elapsed time from ED arrival to ER departure for patients discharged from the ED.
---------------------	--

Admit to ER (AMER or ED Dashboard):

- Exclude expired patients (Discharge Status = patient expired)
- Exclude admitted patients (ADT package) within an hour after the ER discharged at the same facility

Discharge from ER – AMER or ED Dashboard - timestamps discharge time:

- Enter Primary Purpose of Visit (POV) through ER IPL; enter disposition

**Stratification 1:** Patients with Mental Health Diagnosis (Set as POV) in IPL (see value sets).

**Stratification 2:** Discharge status = Discharge (transfer) to another Acute Care Facility.

**Stratification 3:** Patients discharged alive and neither of above applies.

## 2.4.3 Value Sets

- "Encounter, Order: Observation Services" (2.16.840.1.113762.1.4.1111.143)"
- "Encounter, Performed: ED Visit" (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)"
- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"
- codesystem "SNOMEDCT" using "2.16.840.1.113883.6.96 version 2017-09"
- code "Patient deceased during stay (discharge status = dead) (finding)" using "SNOMEDCT version 2017-09 Code (371828006)"
- valueset "Discharge To Acute Care Facility" using "2.16.840.1.113883.3.117.1.7.1.87"

## 2.5 CMS53v7 Primary PCI Received Within 90 Minutes of Hospital Arrival

### 2.5.1 Detail

<b>Description:</b>	Acute myocardial infarction (AMI) patients with a diagnostic Electrocardiogram (ECG) and ST-segment elevation, who receive a primary percutaneous coronary intervention (PCI) during their hospital stay, and the time from hospital arrival to PCI is 90 minutes or less
<b>Rationale:</b>	The early use of primary angioplasty in patients with ST-segment myocardial infarction (STEMI) results in a significant reduction in mortality and morbidity. The earlier primary coronary intervention is provided, the more effective it is (Brodie, 1998 and DeLuca, 2004). National guidelines recommend the prompt initiation of PCI in patients presenting with ST-elevation myocardial infarction (O'Gara, 2013; and Levine 2011).
<b>Clinical Recommendation Statement:</b>	National guidelines recommend the prompt initiation of PCI in patients presenting with ST-elevation myocardial infarction.
<b>Guidance:</b>	To identify the ECG closest to hospital arrival, the denominator will identify the most recent ECG performed that starts less than 1 hour prior to the ED or inpatient encounter OR the first ECG performed starts after the ED or inpatient encounter started. PCI procedures analyzed in this measure must be primary procedures. Primary includes emergent or urgent PCI procedures and not those described by the physician/APN/PA anywhere in the record as elective, not emergent, not immediate, not primary, not urgent, or secondary. From a clinical standpoint, Primary PCI is loosely defined as percutaneous coronary intervention performed in the acute setting in patients with ST-segment elevation MI which is intended to restore perfusion in the infarct-related artery.
<b>Initial Population:</b>	Patients age 18 and older at the time of hospital admission with a principal diagnosis of an Acute or Evolving Myocardial Infarction (ST-segment elevation MI) with hospital stays <= 120 days during the measurement period
<b>Denominator:</b>	Initial population with an ECG performed and a primary PCI procedure closest to the inpatient admission that does not start after fibrinolytic therapy
<b>Denominator Exclusions:</b>	Patients who transferred from another hospital's inpatient, outpatient, or ED and ambulatory surgery center facilities are excluded
<b>Numerator:</b>	Initial population whose time from hospital arrival to primary PCI is 90 minutes or less
<b>Numerator Exclusions:</b>	Not applicable

<b>Denominator Exceptions:</b>	Patients who did not receive PCI within 90 minutes and have a documented reason. Documented reasons include: "Diagnosis: Cardiopulmonary arrest" "Procedure, Performed: Endotracheal Intubation" "Procedure, Performed: Aortic balloon pump insertion" "Procedure, Performed: Ventricular Assist Device placement"
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex

## 2.5.2 Data Entry

<b>Description:</b>	AMI patients with a diagnostic ECG and ST-segment elevation, who receive a primary PCI during their hospital stay, and the time from hospital arrival to PCI is 90 minutes less.
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Admitted patients, 18 or older, with principal diagnosis of acute or evolving myocardial infarction (ST-elevated MI, “STEMI”), LOS <120 days ending during measurement period. Primary POV entered by Inpatient Coder after discharge.

Denominator also requires ECG performed AND PCI begun before fibrinolytic therapy given (timestamp when finished by pharmacy, in ER or inpatient).

Denominator exclusions: Patients transferred from another facility (ER, IP, OPD, or ambulatory surgery center).

Numerator: Patients with time from admission to primary PCI 90 minutes or less (AMI Tool allows entry of times for EKG, PCI in ER, or inpatient).

Figure 2-13: Problem Management AMI tool

- Check ECG done. Time and add finding.
- Check “fibrinolytic therapy not initiated.”
- Check “PCI done”. This captures time. Procedure must still be entered in IPL for outpatient or by Inpatient Coder.

Denominator exceptions (documented reasons for not providing PCI):

- Cardiopulmonary arrest
- Endotracheal intubation
- Aortic balloon pump insertion
- Ventricular assist device placement

### 2.5.3 Value Sets

- "Diagnosis: Cardiopulmonary arrest" (2.16.840.1.113883.3.666.5.748)"
- "Diagnostic Study, Performed: Electrocardiogram (ECG)" (2.16.840.1.113883.3.666.5.735)"
- "Encounter, Performed: ED Visit" (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)"
- "Medication, Administered: Fibrinolytic Therapy" (2.16.840.1.113883.3.666.5.736)"

- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Aortic balloon pump insertion" (2.16.840.1.113883.3.666.5.1151)"
- "Procedure, Performed: Endotracheal Intubation" (2.16.840.1.113762.1.4.1045.69)"
- SNOMEDCT, ICD10PCS
- "Procedure, Performed: PCI" (2.16.840.1.113762.1.4.1045.67)"
- "Procedure, Performed: Ventricular Assist Device placement" (2.16.840.1.113883.3.666.5.3015)"
- valueset "Transfer From Outpatient" using "2.16.840.1.113883.3.67.1.101.950"
- valueset "Transfer From Inpatient" using "2.16.840.1.113883.3.666.5.3013"
- valueset "Transfer From ED Locations" using "2.16.840.1.113883.3.666.5.3006"
- valueset "Acute or Evolving MI" using "2.16.840.1.113883.3.666.5.3022"
- valueset "Ambulatory surgical center" using "2.16.840.1.113883.3.666.5.687"

## 2.6 CMS55v7 Median Time from ED Arrival to ED Departure for Admitted ED Patients

### 2.6.1 Detail

<b>Description:</b>	Median time from ED arrival to time of departure from the ER for patients admitted to the facility from the ED
<b>Stratification:</b>	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 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 consistent with psychiatric/mental health disorders

<b>Rate Aggregation:</b>	Calculate the ED encounter duration in minutes 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 length of time the patient was in the ED, also stated as: the Datetime difference between the ED facility location departure date/time and the ED facility location arrival date/time. The calculation requires the median across all ED encounter durations.
<b>Rationale:</b>	In recent times, EDs have experienced significant overcrowding. Although once only a problem in large, urban, teaching hospitals, the phenomenon has spread to other suburban and rural healthcare organizations. According to a 2002 national U.S. survey, more than 90% of large hospitals report EDs operating "at" or "over" capacity. Approximately one third of hospitals in the US report increases in ambulance diversion in a given year, whereas up to half report crowded conditions in the ED. In a recent national survey, 40% of hospital leaders viewed ED crowding as a symptom of workforce shortages. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. Overcrowding and heavy emergency resource demand have led to a number of problems, including ambulance refusals, prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised.
<b>Clinical Recommendation Statement:</b>	Reducing the time patients remain in the ED can improve access to treatment and increase quality of care. Reducing this time potentially improves access to care specific to the patient condition and increases the capability to provide additional treatment.

<b>Guidance:</b>	<p>This measure specification defines how to determine the duration of an individual ED encounter. Reporting requires the median of all ED encounter durations defined as [Encounter: encounter ED] facility location departure date and time minus [Encounter: encounter ED] ED facility location arrival date and time.</p> <p>Calculate the ED time in minutes for each patient 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 length of time the patient was in the ED, also stated as: the Datetime difference between the ED facility location departure datetime and the ED facility location arrival datetime. The calculation requires the median across all ED encounter durations.</p> <p>For each population, results should be reported without stratification and then with each stratum applied. For this measure, the number of encounters that fall into the Initial Population are reported without stratification, then reported according to the defined stratification. The number of encounters that fall into the Measure Population are reported without stratification, then reported according to the defined stratification. The computed continuous variable defined by the Measure Observation is reported for the Measure Population also, then reported according to the defined stratification.</p>
<b>Initial Population:</b>	Inpatient Encounters ending during the measurement period with Length of Stay (Discharge Date minus Admission Date) less than or equal to 120 days, and preceded within an hour by an ED visit at the same physical facility
<b>Measure Population:</b>	Initial Population
<b>Measure Population Exclusions:</b>	ED encounters with an admission source from another "Hospital Setting" (any different facility, even if part of the same hospital system) resulting in an inpatient stay
<b>Measure Observations:</b>	Time (in minutes) from ED facility location arrival to ED facility location departure for patients admitted to the facility from the ED
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure, also identify payer, race, ethnicity, and sex.

## 2.6.2 Data Entry

<b>Description:</b>	Median time from ED arrival to time of departure from the ER for patients admitted to the facility from the ED.
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Admit patient to ER, use AMER or ED Dashboard to timestamp arrival time (if patient transferred to ER from hospital settings they are not included in Denominator for measure).



When patient discharged in AMER or ED Dashboard (timestamps discharge time) and admitted from ER, the time between ER discharge and Inpatient must be less than 1 hour to be included. Enter "Admit" for disposition.

Stratification 1: POV in ER is not mental health related (see value sets).

Stratification 2: POV in ER is mental health related.

### 2.6.3 Value Sets

- "Encounter, Performed: ED Visit" (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)"
- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"
- valueset "Hospital Settings" using "2.16.840.1.113762.1.4.1111.126"
- valueset "Psychiatric/Mental Health Diagnosis" using "2.16.840.1.113883.3.117.1.7.1.299"

## 2.7 CMS71v10 Anticoagulation Therapy for Atrial Fibrillation/Flutter

### 2.7.1 Detail

<b>Description:</b>	Ischemic stroke patients with atrial fibrillation/flutter who are prescribed or continuing to take anticoagulation therapy at hospital discharge.
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<b>Rationale:</b>	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.
<b>Clinical Recommendation Statement:</b>	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.
<b>Guidance:</b>	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.
<b>Initial Population:</b>	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.
<b>Denominator:</b>	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.

<b>Denominator Exclusions:</b>	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
<b>Numerator:</b>	Inpatient hospitalizations for patients prescribed or continuing to take anticoagulation therapy at hospital discharge.
<b>Denominator Exceptions:</b>	Inpatient hospitalizations for patients with a documented reason for not prescribing anticoagulation therapy at discharge
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.7.2 Data Entry

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

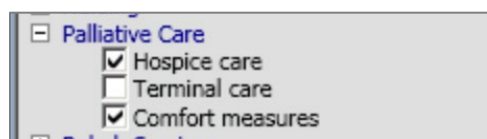


Figure 2-14: Palliative Care list

#### 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.

### 2.7.3 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)

#### 2.7.4 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)"

## 2.8 CMS72v9 Antithrombotic Therapy End of Hospital Day 2

### 2.8.1 Detail

<b>Description:</b>	Ischemic stroke patients administered antithrombotic therapy by the end of hospital day 2.
<b>Rationale:</b>	<p>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.</p> <p>Anticoagulants at doses to prevent venous thromboembolism are insufficient antithrombotic therapy to prevent recurrent ischemic stroke or TIA.</p>
<b>Clinical Recommendation Statement:</b>	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.
<b>Guidance:</b>	<p>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.</p> <p>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).</p> <p>In the denominator exclusions, the intent is to only exclude patients with a total length of stay of &lt;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.</p> <p>Enoxaparin 40mg once a day is not a therapeutic dose for antithrombotic therapy.</p> <p>This eCQM is an episode-based measure.</p>
<b>Initial Population:</b>	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
<b>Denominator:</b>	Inpatient hospitalizations for patients with a principal diagnosis of ischemic stroke

<b>Denominator Exclusions:</b>	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.
<b>Numerator:</b>	Inpatient hospitalization for patients who had antithrombotic therapy administered the day of or day after hospital arrival
<b>Denominator Exceptions:</b>	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.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.8.2 Data Entry

<b>Description:</b>	Ischemic stroke patients administered antithrombotic therapy by the end of hospital day 2.
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Admit patient, age over 18, diagnosis “Ischemic Stroke.” Includes observation.

Duration of hospitalization (including ER) over 2 days and less than 120 days (admission from ER within one hour of ER Discharge).

Excludes patients with documented “comfort measures” on admission or day 1 (document hospice care on IPL/TREG).

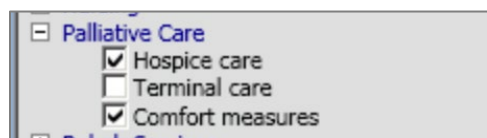


Figure 2-15: Palliative Care list

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.”

Exclude patients with INR>3.5 (INR Value set: 2.16.840.1.113883.3.117.1.7.1.213)

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 2-16: Stroke Tool

Discharge dx = Ischemic stroke.

### 2.8.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "Antithrombotic Therapy" (2.16.840.1.113883.3.117.1.7.1.201)
- 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)

#### 2.8.4 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 (2.16.840.1.113883.3.117.1.7.1.201)"
- "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 (2.16.840.1.113883.3.117.1.7.1.201)"
- "Medication, Not Ordered: Antithrombotic Therapy" using "Antithrombotic Therapy (2.16.840.1.113883.3.117.1.7.1.201)"
- "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)"

## 2.9 CMS102v7 Assessed for Rehabilitation

### 2.9.1 Detail

<b>Description:</b>	Ischemic or hemorrhagic stroke patients who were assessed for rehabilitation services.
<b>Rationale:</b>	Each year about 700,000 people experience a new or recurrent stroke, which is the nation's third leading cause of death. Approximately two thirds of these individuals survive and require rehabilitation. Stroke is a leading cause of serious, long-term disability in the United States, with about 4.4 million stroke survivors alive today. Forty percent of stroke patients are left with moderate functional impairment and 15 to 30 percent with severe disability. More than 60% of those who have experienced stroke, serious injury, or a disabling disease have never received rehabilitation. Stroke rehabilitation should begin as soon as the diagnosis of stroke is established, and life-threatening problems are under control. Among the high priorities for stroke are to mobilize the patient and encourage resumption of self-care activities as soon as possible. A considerable body of evidence indicates better clinical outcomes when patients with stroke are treated in a setting that provides coordinated, multidisciplinary stroke-related evaluation and services. Effective rehabilitation interventions initiated early following stroke can enhance the recovery process and minimize functional disability. The primary goal of rehabilitation is to prevent complications, minimize impairments, and maximize function.
<b>Guidance</b>	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.

<b>Clinical Recommendation Statement:</b>	A considerable body of evidence indicates better clinical outcomes when patients with stroke are treated in a setting that provides coordinated, multidisciplinary stroke-related evaluation and services. Effective rehabilitation interventions initiated early following stroke can enhance the recovery process and minimize functional disability.
<b>Initial Population:</b>	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.
<b>Denominator:</b>	Initial Population.
<b>Denominator Exclusions:</b>	Patients with comfort measures documented. Patients discharged to another hospital. Patients who left against medical advice. Patients who expired. Patients discharged to home for hospice care. Patients discharged to a health care facility for hospice care. Patients admitted for elective carotid intervention. This exclusion is implicitly modeled by only including non-elective hospitalizations.
<b>Numerator:</b>	Ischemic or hemorrhagic stroke patients assessed for or who received rehabilitation services.
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.9.2 Data Entry

<b>Description:</b>	Ischemic or hemorrhagic stroke patients who were assessed for rehabilitation services.
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Admit, patient over age 18, diagnosis = Ischemic Stroke or Hemorrhagic Stroke.

- Excludes patients discharged to acute care facility, leave AMA, patient expires, discharged to hospice care (home or facility) (Document in ADT package discharge status).
- Excludes patients with documented **comfort measures** (TREG).

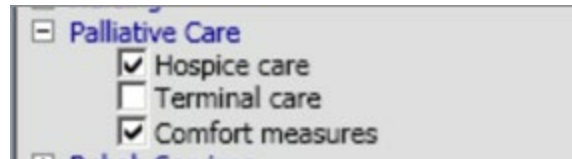


Figure 2-17: Palliative Care list

- Includes patients discharged to rehab facility.

Numerator:

Document Rehabilitation Therapy or Rehabilitation Assessment, IPL, TREG, Rehab Services:

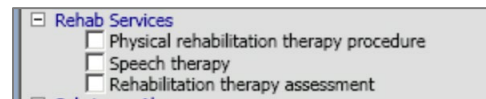


Figure 2-18: Rehab Services list

Numerator includes refusals (patient or medical reason); document in Personal Health component, select **SNOMED** and select one of several options:

- Assessment of mobility
- Diagnostic physical therapy
- Occupational therapy assessment
- Physical therapy assessment.

 A screenshot of a form titled "Enter Service Not Provided / Refusal". The form has several sections:
 

- Refusal Type:** A grid of checkboxes for various service types: CPT, EKG, Exam, Immunization, Lab, Mammogram, Measurement, Medication/Drug, PAP Smear, Radiology Exam, Skin Test, and SNOMED (which is checked and highlighted).
- SNOMED:** A text input field with a dropdown arrow.
- Reason:** A dropdown menu with "Refused" selected.
- Date Refused:** A date input field showing "01/15/2020" with a dropdown arrow.
- Comment:** A large text area for additional notes.

Figure 2-19: Service Refusal

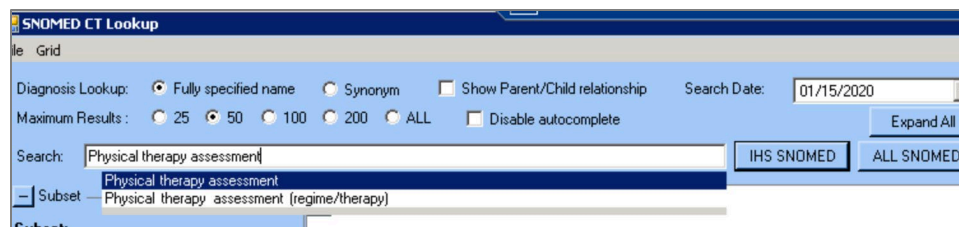


Figure 2-20: SNOMED CT Lookup

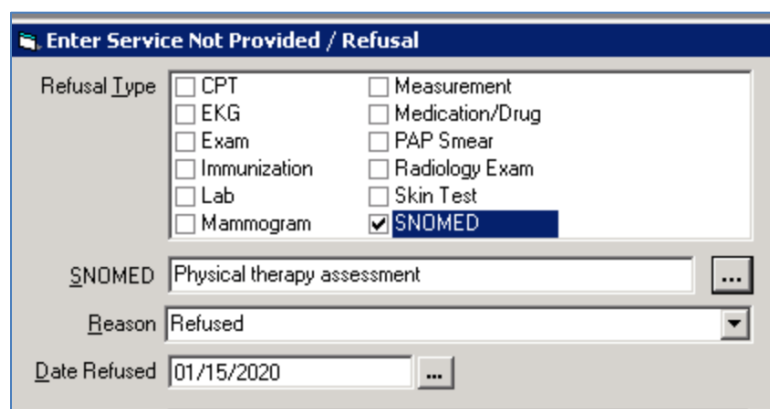


Figure 2-21: Service Refusal

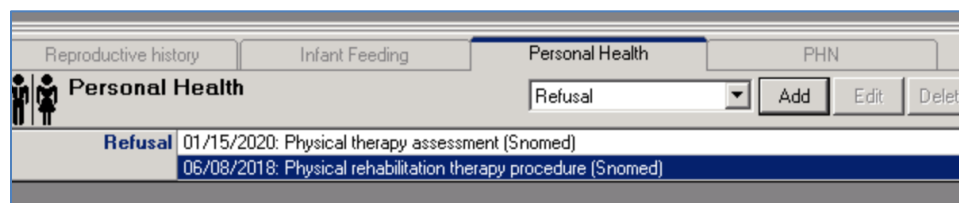


Figure 2-22 :Personal Health tab

### 2.9.3 Value Sets

- "Encounter, Performed: ED Visit" (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Non-Elective Inpatient Encounter" (2.16.840.1.113883.3.117.1.7.1.424)"
- "Intervention, Order: Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)"
- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"

- "Procedure, Not Performed: Rehabilitation Assessment" (2.16.840.1.113762.1.4.1045.18)"
- "Procedure, Not Performed: Rehabilitation Therapy" (2.16.840.1.113762.1.4.1045.19)"
- "Procedure, Performed: Rehabilitation Assessment" (2.16.840.1.113762.1.4.1045.18)"
- "Procedure, Performed: Rehabilitation Therapy" (2.16.840.1.113762.1.4.1045.19)"
- valueset "Discharge To Acute Care Facility" using "2.16.840.1.113883.3.117.1.7.1.87"
- valueset "Discharged to Health Care Facility for Hospice Care" using "2.16.840.1.113883.3.117.1.7.1.207"
- valueset "Discharged to Home for Hospice Care" using "2.16.840.1.113883.3.117.1.7.1.209"
- valueset "Discharged to Rehabilitation Facility" using "2.16.840.1.113883.3.117.1.7.1.132"
- valueset "Hemorrhagic Stroke" using "2.16.840.1.113883.3.117.1.7.1.212"
- valueset "Ischemic Stroke" using "2.16.840.1.113883.3.117.1.7.1.247"
- valueset "Left Against Medical Advice" using "2.16.840.1.113883.3.117.1.7.1.308"
- valueset "Medical Reason" using "2.16.840.1.113883.3.117.1.7.1.473"
- valueset "Patient Expired" using "2.16.840.1.113883.3.117.1.7.1.309"
- valueset "Patient Refusal" using "2.16.840.1.113883.3.117.1.7.1.93"

## 2.10 CMS104v9 Discharged on Antithrombotic Therapy

### 2.10.1 Detail

<b>Description:</b>	Ischemic stroke patients prescribed or continuing to take antithrombotic therapy at hospital discharge.
---------------------	---

<b>Rationale:</b>	<p>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.</p> <p>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.</p> <p>Anticoagulants at doses to prevent venous thromboembolism are insufficient antithrombotic therapy to prevent recurrent ischemic stroke or TIA.</p>
<b>Clinical Recommendation Statement:</b>	<p>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.</p>
<b>Guidance</b>	<p>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.</p> <p>The "Medication, Discharge" datatype refers to the discharge medication list and is intended to express medications ordered for post-discharge use.</p> <p>This eCQM is an episode-based measure.</p>
<b>Initial Population:</b>	<p>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</p>
<b>Denominator:</b>	<p>Inpatient hospitalizations for patients with a principal diagnosis of Ischemic stroke.</p>

<b>Denominator Exclusions:</b>	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
<b>Numerator:</b>	Inpatient hospitalizations for patients prescribed or continuing to take antithrombotic therapy at hospital discharge
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	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.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.10.2 Data Entry

<b>Description:</b>	Ischemic stroke patients prescribed or continuing to take antithrombotic therapy at hospital discharge.
---------------------	---

- Admit (non-elective), age over 18, diagnosis = Ischemic Stroke. Includes observation services (Value set: 2.16.840.1.113762.1.4.1111.143).
- Excludes patients with documented comfort measures (IPL/TREG).

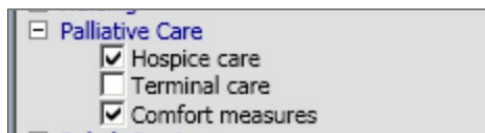


Figure 2-23: Palliative Care list

- Excludes patients discharged to acute care facility (ADT package, d/c), patient expires, left AMA, or discharged for hospice care (home or facility).
- Exceptions for patients who refuse antithrombotic (patient refusal or medical contraindication), enter in Personal Health Component, medication.



- 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”).

The screenshot shows a medication prescription form with the following fields and values:

- Days Supply: 1
- Qty (TAB): 4
- Refills: 0
- Clinical Indication: (empty)
- Chronic Med: (unchecked)
- Dispense as Written: (unchecked)
- Priority: STAT
- Discharge Medication: (checked)
- Pick Up: Clinic (selected), Mail, Window, Outside Pharmacy - eRx, Outside Pharmacy - Print
- Notes to Pharmacist: (empty)
- ASPIRIN 81MG TAB CHEWABLE 81MG
- CHEW FOUR (4) TABLETS BY MOUTH NOW
- Quantity: 4 Days: 1 Refills: 0 \*Chronic Med: NO Dispense as Written: NO

Figure 2-24: Discharge Medication

### 2.10.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "Antithrombotic Therapy" (2.16.840.1.113883.3.117.1.7.1.201)
- 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)

#### 2.10.4 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 (2.16.840.1.113883.3.117.1.7.1.201)"
- "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 (2.16.840.1.113883.3.117.1.7.1.201)"
- "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)"

## 2.11 CMS105v9 Discharged on Statin Medication

### 2.11.1 Detail

<b>Description:</b>	Ischemic stroke patients who are prescribed or continuing to take statin medication at hospital discharge.
<b>Rationale:</b>	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).
<b>Guidance</b>	<p>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.</p> <p>The "Medication, Discharge" datatype refers to the discharge medication list and is intended to express medications ordered for post-discharge use.</p> <p>This eCQM is an episode-based measure.</p>
<b>Clinical Recommendation Statement:</b>	For patients with stroke of atherosclerotic origin, intensive lipid lowering therapy with statins should be initiated.
<b>Initial Population:</b>	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
<b>Denominator:</b>	Inpatient hospitalizations for patients with a principal diagnosis of ischemic stroke

<b>Denominator Exclusions:</b>	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
<b>Numerator:</b>	Inpatient hospitalizations for patients prescribed or continuing to take statin medication at hospital discharge
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	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 $\leq$ 30 days prior to arrival or any time during the hospital stay Inpatient hospitalizations for patients with a statin allergy
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 2.11.2 Data Entry

<b>Description:</b>	Ischemic stroke patients who are prescribed or continuing to take statin medication at hospital discharge.
---------------------	--

- Admit (non-elective), patient over 18, diagnosis = Ischemic Stroke, discharged within measurement period.
- Includes observation services (Value set: 2.16.840.1.113762.1.4.1111.143).
- 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;
- Denominator exclusion:
  - Patients with **comfort measures** documented (document in IPL/TREG):

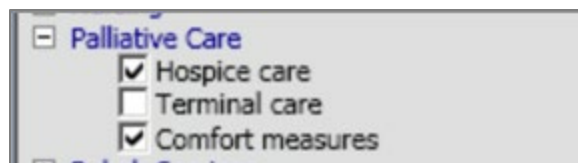


Figure 2-25: Palliative Care list

- Patients who expire during hospitalization, discharged to another hospital, left AMA, discharged for hospice care (home or facility).
- Numerator: Order statin (2.16.840.1.113762.1.4.1110.19), mark as **Discharge Medication**.

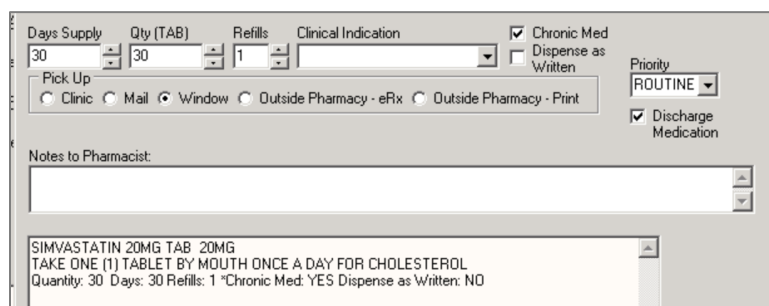


Figure 2-26: Discharge Medication

### 2.11.3 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)

#### 2.11.4 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)"

## 2.12 CMS107v7 Stroke Education

### 2.12.1 Detail

<b>Description:</b>	Ischemic or hemorrhagic stroke patients or their caregivers who were given educational materials during the hospital stay addressing all of the following: activation of emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke.
<b>Rationale:</b>	There are many examples of how patient education programs for specific chronic conditions have increased healthful behaviors, improved health status, and/or decreased health care costs of their participants. Clinical practice guidelines include recommendations for patient and family education during hospitalization as well as information about resources for social support services. Some clinical trials have shown measurable benefits in patient and caregiver outcomes with the application of education and support strategies. The type of stroke experienced, and the resulting outcomes will play a large role in determining not only the course of treatment but also what education will be required. Patient education should include information about the event (e.g., cause, treatment, and risk factors), the role of various medications or strategies, as well as desirable lifestyle modifications to reduce risk or improve outcomes. Family/caregivers will also need guidance in planning effective and realistic care strategies appropriate to the patient's prognosis and potential for rehabilitation.
<b>Clinical Recommendation Statement:</b>	Some clinical trials have shown measurable benefits in patient and caregiver outcomes with the application of education and support strategies. Patient education should include information about the event (e.g., cause, treatment, and risk factors), the role of various medications or strategies, as well as desirable lifestyle modifications to reduce risk or improve outcomes. Family/caregivers will also need guidance in planning effective and realistic care strategies appropriate to the patient's prognosis and potential for rehabilitation.

<b>Guidance</b>	Written information given to the patient is required to address each and every one of the educational components. These components are modeled in the population criteria and data criteria as communication from provider to patient :activation of emergency medical system, follow-up after discharge, medications prescribed at discharge, risk factors and signs and symptoms, and are intended to be specific to stroke. The "Non-elective admissions" value set intends to capture all non-scheduled hospitalizations. This value set is a subset of the "Inpatient encounter" value set, excluding concepts that specifically refer to elective hospital admissions. Non-elective admissions include emergency, urgent and unplanned admissions.
<b>Initial Population:</b>	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.
<b>Denominator:</b>	Ischemic stroke or hemorrhagic stroke patients discharged to home, home care, or court/law enforcement
<b>Denominator Exclusions:</b>	Patients with comfort measures documented.
<b>Numerator:</b>	Ischemic or hemorrhagic stroke patients with written documentation that they or their caregivers were given educational material addressing all of the following: Activation of emergency medical system. Follow-up after discharge. Medications prescribed at discharge. Risk factors for stroke. Warning signs and symptoms of stroke.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 2.12.2 Data Entry

<b>Description:</b>	Ischemic or hemorrhagic stroke patients or their caregivers who were given educational materials during the hospital stay addressing all of the following: activation of emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke.
---------------------	--

Denominator:

- Patients admitted (non-elective), age 18+ (ADT package).



- Principal diagnosis = stroke (hemorrhagic or ischemic) (post discharge PCC entry).
- Discharged during measurement period (LOS <120 days) to home, home care, or court/law enforcement.

Denominator exclusions: Comfort care documented (TREG, Palliative Care).

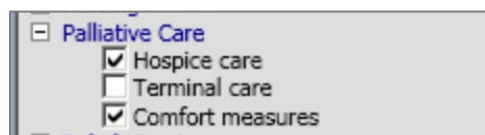


Figure 2-27: Palliative Care List

Numerator:

- Written documentation that patient or caregivers given education material including:
  - Warning signs and symptoms of stroke (POV, raising awareness of risk factors).

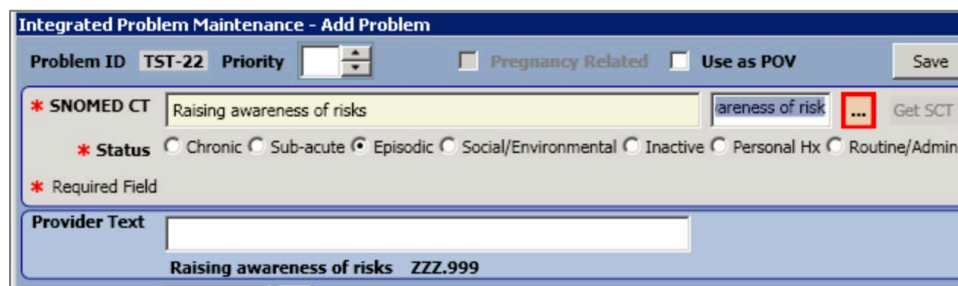


Figure 2-28: Add a Problem dialog

- FU after discharge (IPL/TREG - follow up arranged).



Figure 2-29: Follow-up list

- Activation of EMS.

Can enter IPL and search for “Activation of emergency....”

Figure 2-30: Add a Problem dialog

OR:

Can enter Education code (from Chest Pain or Cardiovascular Disease):

Figure 2-31: Chest Pain list

- Meds at discharge (Patient Education – Cerebrovascular Disease – Medications).
- Risk factors for stroke (POV, raising awareness of risk factors).

Education topic, Cerebrovascular Disease – Disease Process:

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CEREBROVASCULAR DISEASE-DISEASE PROCESS

OUTCOME:
The patient/family will understand the cerebrovascular disease.

STANDARD:
1. Discuss the cerebrovascular disease process and types strokes.
2. Explain the risk factors related to the development of cerebrovascular
disease.

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Figure 2-32: Disease Process

### 2.12.3 Value Sets

- "Communication: From Provider To Patient, Not Done: Written Information Given" (2.16.840.1.113883.3.117.1.7.1.415)"
- "Communication: From Provider To Patient: Activation of Emergency Medical System Education" (2.16.840.1.113883.3.117.1.7.1.377)"
- "Communication: From Provider To Patient: Instructions for Follow Up After Discharge" (2.16.840.1.113883.3.117.1.7.1.378)"
- "Communication: From Provider To Patient: Prescribed Medications Education" (2.16.840.1.113883.3.117.1.7.1.379)"
- "Communication: From Provider To Patient: Risk Factors Education" (2.16.840.1.113883.3.117.1.7.1.380)"
- "Communication: From Provider To Patient: Warning Signs and Symptoms Education" (2.16.840.1.113883.3.117.1.7.1.381)"

- "Communication: From Provider To Patient: Written Information Given" (2.16.840.1.113883.3.117.1.7.1.415)"
- "Encounter, Performed: ED Visit" (2.16.840.1.113883.3.117.1.7.1.292)"
- "Encounter, Performed: Non-Elective Inpatient Encounter" (2.16.840.1.113883.3.117.1.7.1.424)"
- "Intervention, Order: Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)"
- "Intervention, Performed: Comfort Measures" (1.3.6.1.4.1.33895.1.3.0.45)"
- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"
- valueset "Discharge To Home Or Police Custody" using "2.16.840.1.113883.3.117.1.7.1.82"
- valueset "Hemorrhagic Stroke" using "2.16.840.1.113883.3.117.1.7.1.212"
- valueset "Ischemic Stroke" using "2.16.840.1.113883.3.117.1.7.1.247"
- valueset "Patient Refusal" using "2.16.840.1.113883.3.117.1.7.1.93"

## 2.13 CMS108v9 Venous Thromboembolism Prophylaxis

### 2.13.1 Detail

<b>Description:</b>	This measure assesses the number of patients who received Venous Thromboembolism (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.
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<p><b>Rationale:</b></p>	<p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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.</p>
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<b>Clinical Recommendation Statement:</b>	Failure to recognize and protect patients at risk for VTE increases the chances for acutely ill hospitalized patients at high risk 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 hospitalized patients should be evaluated for primary VTE prophylaxis and given appropriate prophylaxis when indicated.
<b>Guidance</b>	<p>When low dose unfractionated heparin is administered for VTE Prophylaxis, the intended administration route for low dose unfractionated heparin is subcutaneous.</p> <p>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."</p> <p>This eCQM is an episode-based measure.</p>
<b>Initial Population:</b>	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.
<b>Denominator:</b>	Inpatient hospitalizations for all patients in the initial population.
<b>Denominator Exclusions:</b>	<ul style="list-style-type: none"> <li>* Inpatient hospitalizations for patients who have a length of stay less than 2 days</li> <li>* Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after hospital admission</li> <li>* 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</li> <li>* 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</li> <li>* Inpatient hospitalizations for patients with a principal diagnosis of mental disorders or stroke</li> <li>* Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries</li> </ul>

<b>Numerator:</b>	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)
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 2.13.2 Data Entry

<b>Description:</b>	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.
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#### 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.

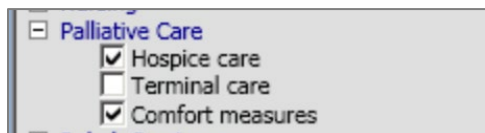


Figure 2-32: Palliative Care list

- Direct admit to ICU or transfer to ICU day of admission or next 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)

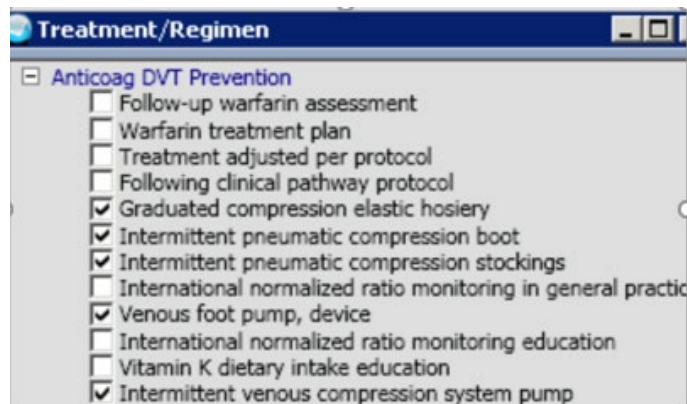


Figure 2-33: Treatment/Regimen list

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)

### 2.13.3 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 and Betrixaban 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)

#### 2.13.4 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 and Betrixaban for VTE Prophylaxis" using "Rivaroxaban and Betrixaban 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 and Betrixaban for VTE Prophylaxis" using "Rivaroxaban and Betrixaban 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 and Betrixaban for VTE Prophylaxis" using "Rivaroxaban and Betrixaban 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)"

## 2.14 CMS111v9 Median Admit Decision Time to ED Departure Time for Admitted Patients

### 2.14.1 Detail

<b>Description:</b>	Median time (in minutes) from admit decision time to time of departure from the ED for ED patients admitted to inpatient status.
<b>Stratification:</b>	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
<b>Rate Aggregation:</b>	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.

<b>Rationale:</b>	<p>Reducing the time patients remain in the emergency department (ED) can improve access to treatment and increase quality of care. Reducing this time potentially improves access to care specific to the patient condition and increases the capability to provide additional treatment. In recent times, EDs have experienced significant overcrowding. Although once only a problem in large, urban, teaching hospitals, the phenomenon has spread to other suburban and rural healthcare organizations. According to a 2002 national U.S. survey, more than 90 percent of large hospitals report EDs operating "at" or "over" capacity. Approximately one third of hospitals in the U.S. report increases in ambulance diversion in a given year, whereas up to half report crowded conditions in the ED. In a recent national survey, 40 percent of hospital leaders viewed ED crowding as a symptom of workforce shortages. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. Overcrowding and heavy emergency resource demand have led to a number of problems, including ambulance refusals, prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised.</p>
<b>Clinical Recommendation Statement:</b>	<p>The most common cause of ED crowding is the boarding of admitted patients in the ED. Numerous studies have demonstrated the potential for errors, life threatening delays in treatment, and diminished overall quality is enormous.</p>

<b>Guidance:</b>	<p>This measure specification delineates how to calculate the duration from the Decision to Admit to the departure from an Emergency Department (ED) visit.</p> <p>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:</p> <ol style="list-style-type: none"> <li>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</li> <li>2. An Assessment- an ED evaluation that results in a decision to "Admit Inpatient"</li> </ol> <p>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.</p> <p>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.</p> <p>This eCQM is an episode-based measure.</p>
<b>Initial Population:</b>	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
<b>Measure Population:</b>	Initial Population.
<b>Measure Population Exclusions:</b>	Emergency department encounters with an admission source in "Hospital Setting" (any different facility- by location or CCN) resulting in an inpatient stay
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure, also identify payer, race, ethnicity, and sex.

### 2.14.2 Data Entry

<b>Description:</b>	Median time (in minutes) from admit decision time to time of departure from the ED for ED patients admitted to inpatient status.
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- Initial Population - ER visits resulting in Inpatient admission (w/in one hour of ER departure); admission ends within measurement period (LOS<120 days).

- Exclusions: Patients sent to ER from Hospital where the location or CNN is different than where the patient is.
- Decision to Admit time entered in AMER or ED Dashboard.
- Discharge from ER time entered in AMER or ED Dashboard; Disposition “Admit”.
- 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. In order for visits to be counted, the ER visit cannot be merged to the IP visit.
- 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).

### 2.14.3 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)

### 2.14.4 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)"

## 2.15 CMS113v7 Elective Delivery

### 2.15.1 Detail

<b>Description:</b>	Patients with elective vaginal deliveries or elective cesarean births at $\geq 37$ and $< 39$ weeks of gestation completed.
<b>Rationale:</b>	For almost 3 decades, the ACOG and the AAP have had in place a standard requiring 39 completed weeks gestation prior to ELECTIVE delivery, either vaginal or operative (ACOG, 1996). A survey conducted in 2007 of almost 20,000 births in HCA hospitals throughout the U.S. carried out in conjunction with the March of Dimes at the request of ACOG revealed that almost 1/3 of all babies delivered in the United States are electively delivered with 5% of all deliveries in the U.S. delivered in a manner violating ACOG/AAP guidelines. Most of these are for convenience, and result in significant short-term neonatal morbidity (neonatal intensive care unit admission rates of 13-21%) (Clark et al., 2009). According to Glantz (2005), compared to spontaneous labor, elective inductions result in more cesarean births and longer maternal length of stay. The American Academy of Family Physicians (2000) also notes that elective induction doubles the cesarean delivery rate. Repeat elective cesarean births before 39 weeks gestation also result in higher rates of adverse respiratory outcomes, mechanical ventilation, sepsis and hypoglycemia for the newborns (Tita et al., 2009).

<b>Clinical Recommendation Statement:</b>	Guidelines from the American College of Obstetricians and Gynecologists and the AAP do not support non-medically indicated elective deliveries at <39 weeks gestation. Evidence suggests that early term deliveries result in significant short-term neonatal morbidity. Therefore, it is recommended that elective deliveries should not be performed at <39 weeks gestation unless medically indicated.
<b>Guidance</b>	Stillbirth: v2017A of chart-abstracted measure PC-01: Elective Delivery contains a denominator exclusion data element for Stillbirth. The value set for eCQM Denominator Exclusion data element "Assessment, Performed: Conditions Possibly Justifying Elective Delivery" includes SNOMED CT and ICD-10-CM concepts representing Stillbirth and History of Stillbirth. Wherever the gestational age is mentioned with relative timing to delivery, the intent is to capture the estimated gestational age on the day of delivery. It is acceptable to calculate Gestational Age using the American College of Obstetricians and Gynecologists ReVITALize guidelines, which define Gestational Age as calculated using the best obstetrical Estimated Due Date (EDD) based on the formula: $Gestational\ Age = (280 - (EDD - Reference\ Date)) / 7$ where Reference Date is the date on which you are trying to determine gestational age. For PC-01, Reference Date is the Date of Delivery. Note however that the calculation may yield a non-whole number and gestational age should be rounded off to the nearest completed week. For example, an infant born on the 5th day of the 36th week (35 weeks and 5/7 days) is at a gestational age of 35 weeks, not 36 weeks.
<b>Initial Population:</b>	Patients age $\geq 8$ years and $< 65$ admitted to the hospital for inpatient acute care to undergo a delivery procedure and had a length of stay less than or equal to 120 days that ends during the measurement period
<b>Denominator:</b>	Patients delivering newborns with $\geq 37$ and $< 39$ weeks of gestation completed
<b>Denominator Exclusions:</b>	Patients with conditions possibly justifying elective delivery prior to 39 weeks gestation
<b>Numerator:</b>	Patients with elective deliveries by either: Medical induction of labor while not in labor prior to the procedure Cesarean birth while not in labor and with no history of a prior uterine surgery
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

## 2.15.2 Data Entry

<b>Description:</b>	Patients with elective vaginal deliveries or elective cesarean births at $\geq 37$ and $< 39$ weeks of gestation completed.
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Denominator= Patients, age >8-<65 admitted for elective vaginal or C/S delivery.

- Baby's estimated gestational age near term (= or > 37 weeks and < 39 weeks).
  - Personal Health – Birth Measurements.

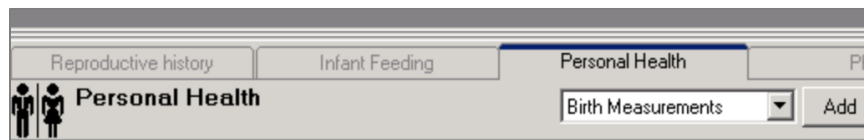


Figure 2-34: Birth Measurements

**Update Birth Measurements**

To enter Birth Weight in lbs and ozs, enter two values separated by a space. Also you can enter K after the value for kilograms (kg), and likewise for grams enter G after the value.

Examples: 7 2 for 7 lbs 2 ozs  
3.2K for 3.2 kilograms  
3200G for 3200 grams

Birth Weight  (lbs oz)

Birth Order

Feeding Choices must contain a number and then either a D for Days, W for Weeks, M for Months or Y for years.

Formula Started

Breast Feeding Stopped

Solids Started

Gestational Age in Weeks, type a Number between 12 and 50 (no decimals)

Gestational Age  (weeks)

Figure 2-35: Update Birth Measurements

Denominator exclusions: Conditions justifying elective delivery before 39 weeks. See Appendix A on using Value Sets. (Value Set: 2.16.840.1.113883.3.117.1.7.1.286).

Numerator:

- Medical induction when not in labor (before start of induction):
  - Medical induction (e.g., oxytocin, dinoprostone) w/in 24 hours of onset of labor.
  - Artificial Rupture of Membranes within 24 hours of onset of labor.
- C/S when not in labor before start of procedure, AND:
  - No history of prior uterine surgery:
    - Classical C/S.
    - Myomectomy.

- Transabdominal cerclage.
- Metroplasty.
- Uterine horn.
- No history of uterine surgery:
  - Perforation of uterus.
  - Uterine window.
  - Uterine rupture.
- Cornual ectopic pregnancy:

This measure is being retired. Documentation done by the Coder and requires the following information:

- Date/time labor established.
- Characterize labor.

```

MNEMONIC: V DELIVERY  VDEL      VDELIVERY  ALLOWED  VISIT RELATED ONLY
Labor Established (Date/Time):
LABOR ESTABLISHED SNOMED CONCEPT ID
1) 6893006           First stage of labor
2) 29236002          Labor established
3) 6383007           Premature labor
4) 84457005          Spontaneous onset of labor
5) 366325002         Progress of labor - first stage - finding
6) 289211007         First stage of labor established
Please Choose a SNOMED CONCEPT ID from the list above:  (1-6)

```

Figure 2-36 :Roll-and-scroll sequence

- Induced or not.
- If induced, include time and date.
- Method of induction.

```

LABOR INDUCED?: Y YES
DATE/TIME LABOR INDUCTION INITIATED:
LABOR INDUCTION SNOMED CONCEPT ID
1) 408816000         Artificial rupture of membranes
2) 408818004         Induction of labor by artificial rupture of membranes
3) 177129005         Surgical induction of labor
4) 177139005         Oxytocin induction of labor
5) 31208007          Medical induction of labor
6) 308037008         Syntocinon induction of labor
7) 237002008         Stimulation of labor
8) 288190009         Induce labor - IV drip
9) 288189000         Induce labor - IV injection
10) 177136006        Prostaglandin induction of labor
Please Choose a SNOMED CONCEPT ID from the list above:  (1-10)

```

Figure 2-37 :Roll-and-scroll sequence (cont.)

- EGA of newborn.
- Sex of newborn.
- Live or stillborn.

```

Newborn Data: None recorded
  Select one of the following:
    A          Add a Newborn Entry
    N          No Change
Which action: N// A Add a Newborn Entry
Enter NEWBORN Delivery Date/Time
Note: There are no EGA measurements on file between a day before and the
delivery date. You will need to manually enter the EGA.
EGA AT DELIVERY:
SEX AT BIRTH:
LIVE/STILLBORN:

```

Figure 2-38 :Roll-and-scroll sequence (cont.)

### 2.15.3 Value Sets

- "Assessment, Performed: EGA at Delivery" (2.16.840.1.113762.1.4.1045.26)"
- "Assessment, Performed: Labor" (2.16.840.1.113883.3.117.1.7.1.281)"
- "Assessment, Performed: Time of Delivery" (2.16.840.1.113762.1.4.1045.28)"
- "Diagnosis: Conditions Possibly Justifying Elective Delivery Prior to 39 Weeks Gestation" (2.16.840.1.113883.3.117.1.7.1.286)"
- "Diagnosis: Cornual Ectopic Pregnancy" (2.16.840.1.113762.1.4.1110.12)"
- "Diagnosis: Perforation of Uterus" (2.16.840.1.113762.1.4.1110.14)"
- "Diagnosis: Uterine Rupture" using (2.16.840.1.113762.1.4.1110.16)"
- "Diagnosis: Uterine Window" (2.16.840.1.113883.3.117.1.7.1.137)"
- "Encounter, Performed: Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)"
- "Medication, Administered: Dinoprostone" (2.16.840.1.113762.1.4.1045.56)"
- "Medication, Administered: Oxytocin" (2.16.840.1.113762.1.4.1045.55)"
- "Patient Characteristic Ethnicity: Ethnicity" (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"
- "Procedure, Performed: Artificial Rupture of Membranes" (2.16.840.1.113762.1.4.1045.57)"
- "Procedure, Performed: Cesarean Birth" (2.16.840.1.113883.3.117.1.7.1.282)"

- "Procedure, Performed: Classical Cesarean Birth" (2.16.840.1.113883.3.117.1.7.1.421)"
- "Procedure, Performed: Delivery Procedures (2.16.840.1.113762.1.4.1045.59)"
- "Procedure, Performed: Medical Induction of Labor" (2.16.840.1.113883.3.117.1.7.1.288)"
- "Procedure, Performed: Metroplasty" (2.16.840.1.113762.1.4.1110.25)"
- "Procedure, Performed: Myomectomy" (2.16.840.1.113883.3.117.1.7.1.422)"
- "Procedure, Performed: Transabdominal Cerclage" (2.16.840.1.113762.1.4.1110.18)"
- "Procedure, Performed: Uterine Horn" (2.16.840.1.113762.1.4.1110.24)"

## 2.16 CMS190v9 Intensive Care Unit Venous Thromboembolism Prophylaxis

### 2.16.1 Detail

<b>Description:</b>	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).
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<p><b>Rationale:</b></p>	<p>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).</p> <p>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).</p> <p>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.</p>
<p><b>Clinical Recommendation Statement:</b></p>	<p>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.</p>

<b>Guidance:</b>	<p>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.</p> <p>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."</p> <p>This eCQM is an episode-based measure.</p>
<b>Initial Population:</b>	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
<b>Denominator:</b>	Inpatient hospitalizations for patients directly admitted or transferred to ICU during the hospitalization
<b>Denominator Exclusions:</b>	<ul style="list-style-type: none"> <li>* Inpatient hospitalizations for patients who have a hospital length of stay (LOS) less than 2 days</li> <li>* Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after ICU admission or transfer</li> <li>* 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</li> <li>* 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</li> </ul>
<b>Numerator:</b>	<p>Inpatient hospitalizations for patients who received VTE prophylaxis:</p> <ul style="list-style-type: none"> <li>- the day of or the day after ICU admission (or transfer)</li> <li>- 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)</li> </ul> <p>Inpatient hospitalizations for patients who have documentation of a reason why no VTE prophylaxis was given:</p> <ul style="list-style-type: none"> <li>- between the day of arrival and the day after ICU admission (for patients directly admitted as inpatients to the ICU)</li> <li>- 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))</li> </ul>
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	Inpatient hospitalizations for patients with ICU LOS less than one day



<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.
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## 2.16.2 Data Entry

<b>Description:</b>	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).
---------------------	---

Inpatient encounter, patient > 18, discharged without a diagnosis of VTE or Obstetrics, LOS < 120 days. Include observation.

Denominator: Patients admitted to or transferred to ICU during admission.

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.

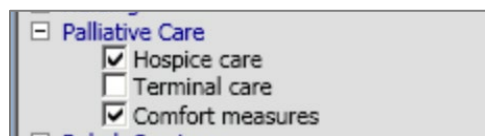


Figure 2-39: Palliative Care list

- 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.

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).

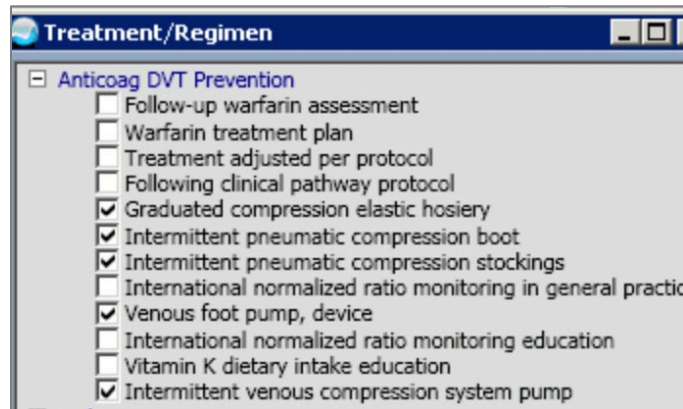


Figure 2-40: Treatment/Regimen list

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.

Denominator Exceptions: ICU stay <1 day.

### 2.16.3 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 and Betrixaban 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)

#### 2.16.4 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 and Betrixaban for VTE Prophylaxis" using "Rivaroxaban and Betrixaban 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 and Betrixaban for VTE Prophylaxis" using "Rivaroxaban and Betrixaban 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 and Betrixaban for VTE Prophylaxis" using "Rivaroxaban and Betrixaban 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)"

## 2.17 CMS506v3 Safe Use of Opioids – Concurrent Prescribing

### 2.17.1 Detail

<b>Description:</b>	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
<b>Rationale:</b>	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

<b>Rationale: (cont.)</b>	<p>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.</p> <p>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, &amp; 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 &amp; McAninch, 2015). Furthermore, concurrent use of benzodiazepines with opioids was prevalent in 31%-51% of fatal overdoses (Dowell, Haegerich, &amp; 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).</p> <p>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).</p> <p>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</p>
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<p><b>Clinical Recommendation Statement:</b></p>	<p>The 2016 CDC Guideline for Prescribing Opioids for Chronic Pain also recommends that:</p> <ul style="list-style-type: none"> <li>- "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."</li> <li>- "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."</li> <li>- "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."</li> </ul> <p>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.</p> <p>The CDC Guideline for Prescribing Opioids for Chronic Pain (Dowell, 2016) also recommends that for patients found to have multiple opioid prescriptions clinicians should:</p> <ul style="list-style-type: none"> <li>- "Discuss information from the PDMP with their patient and confirm that the patient is aware of the additional prescriptions."</li> <li>- "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."</li> <li>- "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."</li> </ul>
<p><b>Definition:</b></p>	<p>For the purpose of this measure, the following are defined as:</p> <ul style="list-style-type: none"> <li>-Opioid: Any Schedule II or Schedule III opioid medication</li> <li>-Benzodiazepine: Any Schedule IV benzodiazepine medication</li> <li>-Prescribed: The intent of the measure is to capture opioid and/or benzodiazepine medications continued or ordered at discharge</li> <li>-Numerator criteria: Two or more unique orders for opioids, or an opioid and benzodiazepine at discharge</li> </ul>

<b>Guidance:</b>	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.
<b>Initial Population:</b>	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 a new or continuing opioid or benzodiazepine at discharge
<b>Denominator:</b>	Initial Population
<b>Denominator Exclusions:</b>	Inpatient hospitalizations where patients have cancer that overlaps the encounter or are receiving palliative or hospice care (including comfort measures, terminal care, and dying care) during the encounter
<b>Numerator:</b>	Inpatient hospitalizations where the patient is prescribed or continuing to take two or more opioids or an opioid and benzodiazepine at discharge
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex

## 2.17.2 Data Entry

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

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. 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.

Denominator Exclusions:

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

Figure 2-41: 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).

Integrated Problem Maintenance - Edit Problem

Problem ID **TST-7** Priority   Pregnancy Related  Use for Inpatient

\* SNOMED CT **Comfort measures**

\* Status  Chronic  Sub-acute  Episodic  Social/Environmental  Inactive  Personal Hx  Routine/Admin

\* Required Field

Provider Text   
Comfort measures **ZZZ.999**

Date of Onset 08/10/2021

Qualifiers Severity: Clinical Course  
Severity Clinical Course

Comments

Narrative	Date	Author

Care Plan Info

Goal Notes	Care Plans	Visit Instructions	Care Planning Activities

Figure 2-42: Comfort Measures selection

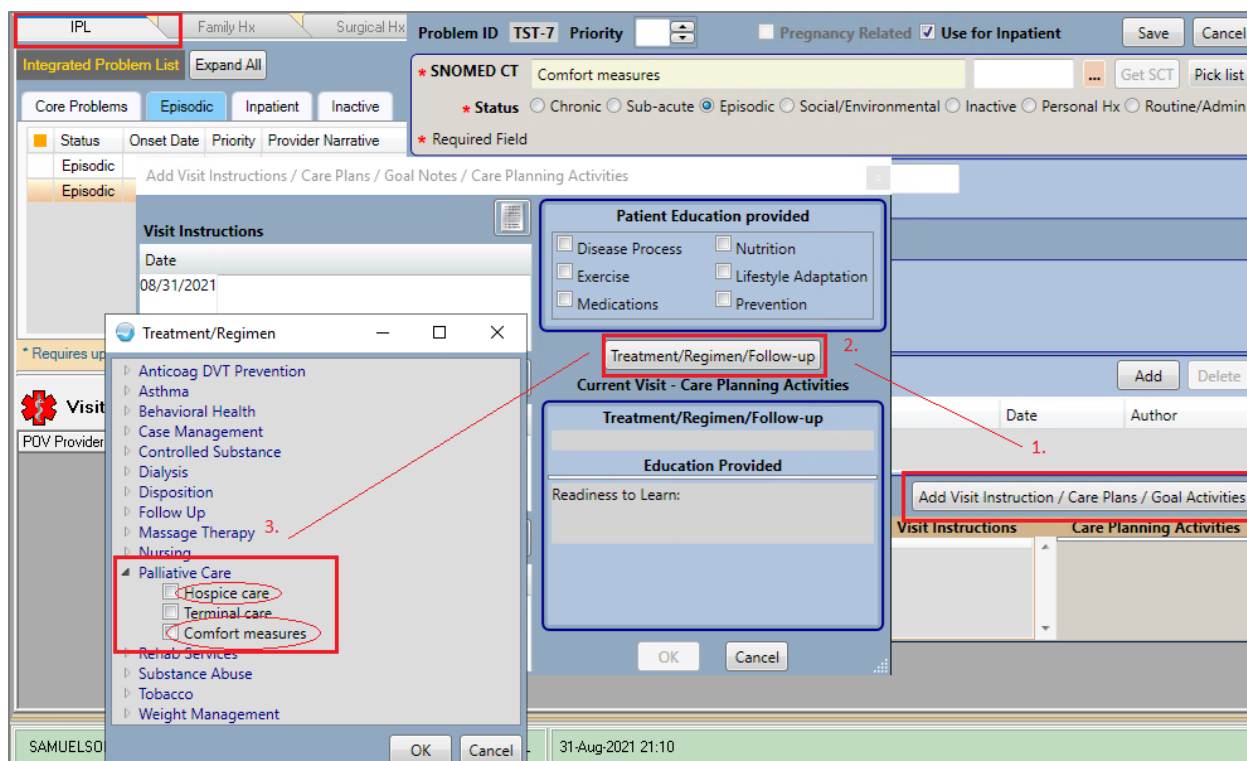


Figure 2-43: Patients receiving palliative or hospice care

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.

**Medication Order**
✕

MORPHINE 100MG ER TAB,SA
Change

Pt Wt on 01/23/2014 160 lb (72.58 kg)  
 Pt Ht on 01/23/2014 66 in (167.64 cm)

Dosage Complex

Dosage	Route	Schedule
100MG 0.2973	ORAL PO	Q12H <input type="checkbox"/> PRN
100MG 0.2973	ORAL PO	OM
200MG 0.5946	ORAL	ON CALL
		ONCE
		ONHA
		PC
		PLAN B
		PRN UD
		Q MONTH
		Q1/2H
		Q12H

Patient Instructions:

Days Supply	Qty (TAB)	Refills	Clinical Indication	<input type="checkbox"/> Chronic Med
<input style="width: 40px;" type="text" value="30"/>	<input style="width: 40px;" type="text" value="60"/>	<input style="width: 40px;" type="text" value="0"/>	<input style="width: 100%;" type="text"/>	<input type="checkbox"/> Dispense as Written

Pick Up:
  Clinic
  Mail
  Window
  Outside Pharmacy - eRx
  Outside Pharmacy - Print

Priority:

Discharge Medication

Notes to Pharmacist:

MORPHINE 100MG ER TAB,SA 100MG  
 TAKE ONE (1) TABLET BY MOUTH EVERY 12 HOURS FOR SEVERE PAIN  
 Quantity: 60 Days: 30 Refills: 0 \*Chronic Med: NO Dispense as Written: NO

ADR's

Accept Order

Quit

Figure 2-44: Discharge Medication selection

Measure Guidance Manual  
November 2021

Hospital Measures (For 2021 Reporting Period)

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Action	Chronic	Outpatient Medications	Status	Process	Issued	Last Filled	Expires	Refills Remaining
		CLONAZEPAM 1MG TAB Qty: 270 for 90 days Sig: TAKE ONE (1) TABLET BY MOUTH THREE TIMES A DAY	Active		23-Jul-2021	23-Jul-2021	23-Jan-2022	0
		METHADONE 10MG TAB Qty: 540 for 90 days Sig: TAKE ONE (1) TABLET BY MOUTH EVERY 4 HOURS FOR SEVERE PAIN	Active		23-Jul-2021	23-Jul-2021	23-Jan-2022	0
		MORPHINE 100MG ER TAB Qty: 180 for 90 days Sig: TAKE ONE (1) TABLET BY MOUTH EVERY 12 HOURS FOR SEVERE PAIN	Active		23-Jul-2021	23-Jul-2021	23-Jan-2022	0

Figure 2-45: Outpatient Medications and Status

### 2.17.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- valueset "All Primary and Secondary Cancer" (2.16.840.1.113762.1.4.1111.161)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- 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 "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Schedule II and 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)

### 2.17.4 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 and III Opioid Medications" using "Schedule II and 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 2021 Reporting Period)

#### 3.1 CMS2v10 Preventive Care and Screening: Screening for Depression and Follow-Up Plan

##### 3.1.1 Detail

<b>Description:</b>	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
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<p><b>Rationale:</b></p>	<p>Depression is a serious medical illness associated with higher rates of chronic disease, increased health care utilization, and impaired functioning (Katon, 2003; Wells et al., 1989). 2016 U.S. survey data indicate 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. The same data indicate that 6.7 percent of adults aged 18 or older (16.2 million adults) had at least one MDE with 4.3 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). Data indicate that severity of depressive symptoms factor into having difficulty with work, home, or social activities. For example, as the severity of depressive symptoms increased, rates of having difficulty with work, home, or social activities related to depressive symptoms increased. For those twelve and older with mild depressive symptoms, 45.7% reported difficulty with activities and those with severe depressive symptoms, 88.0% reported difficulty (Pratt &amp; Brody, 2014). 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). Additionally, perinatal depression (considered here as depression arising in the period from conception to the end of the first postnatal year) affects up to 12% of women (Woody, Ferrari, Siskind, Whiteford, &amp; Harris, 2017). 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). Maternal suicide rates rise over hemorrhage and hypertensive disorders as a cause of maternal mortality (Palladino, Singh, Campbell, Flynn, &amp; Gold, 2011).</p> <p>Negative outcomes associated with depression make it crucial to screen in order to identify and treat depression in its early stages. 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 50% of depressed patients (Borner, Braunstein, St. Victor, &amp; Pollack, 2010). "In nationally representative U.S. surveys, about eight percent of adolescents reported having major depression in the past year. Only 36% to 44% 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 &amp; p. 364). 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.</p> <p>If preventing negative patient outcomes is not enough, the substantial economic burden of depression for individuals and society alike makes a case for screening for depression on a regular basis. Depression imposes economic burden through</p>
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<b>Rationale: (cont.)</b>	<p>direct and indirect costs: "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 &amp; USPSTF, 2016, p. 383-384).</p> <p>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.</p>
<b>Clinical Recommendation Statement:</b>	<p>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).</p> <p>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 &amp; USPSTF, 2016, p. 380).</p> <p>The Institute for Clinical Systems Improvement (ICSI) health care guideline, Adult Depression in Primary Care, provides the following recommendations:</p> <ol style="list-style-type: none"> <li>1. "Clinicians should routinely screen all adults for depression using a standardized instrument."</li> <li>2. "Clinicians should establish and maintain follow-up with patients."</li> <li>3. "Clinicians should screen and monitor depression in pregnant and post-partum women." (Trangle et al., 2016, p. 8-10).</li> </ol>

<b>Definition</b>	<p>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.</p> <p>Standardized Depression Screening Tool: A normalized and validated depression screening tool developed for the patient population in which it is being utilized.</p> <p>Examples of standardized depression screening tools include but are not limited to:</p> <ul style="list-style-type: none"> <li>* Adolescent Screening Tools (12-17 years) <ul style="list-style-type: none"> <li>* Patient Health Questionnaire for Adolescents (PHQ-A)</li> <li>* Beck Depression Inventory-Primary Care Version (BDI-PC)</li> <li>* Mood Feeling Questionnaire (MFQ)</li> <li>* Center for Epidemiologic Studies Depression Scale (CES-D)</li> <li>* Patient Health Questionnaire (PHQ-9)</li> <li>* Pediatric Symptom Checklist (PSC-17)</li> <li>* PRIME MD-PHQ2</li> </ul> </li> <li>* Adult Screening Tools (18 years and older) <ul style="list-style-type: none"> <li>* Patient Health Questionnaire (PHQ9)</li> <li>* Beck Depression Inventory (BDI or BDI-II)</li> <li>* Center for Epidemiologic Studies Depression Scale (CES-D)</li> <li>* Depression Scale (DEPS)</li> <li>* Duke Anxiety-Depression Scale (DADS)</li> <li>* Geriatric Depression Scale (GDS)</li> <li>* Cornell Scale for Depression in Dementia (CSDD)</li> <li>* PRIME MD-PHQ2</li> <li>* Hamilton Rating Scale for Depression (HAM-D)</li> <li>* Quick Inventory of Depressive Symptomatology Self-Report (QID-SR) <ul style="list-style-type: none"> <li>* Computerized Adaptive Testing Depression Inventory (CAT-DI)</li> <li>* Computerized Adaptive Diagnostic Screener (CAD-MDD)</li> </ul> </li> </ul> </li> <li>* Perinatal Screening Tools <ul style="list-style-type: none"> <li>* Edinburgh Postnatal Depression Scale</li> <li>* Postpartum Depression Screening Scale</li> <li>* Patient Health Questionnaire 9 (PHQ-9)</li> <li>* Beck Depression Inventory</li> <li>* Beck Depression Inventory-II</li> <li>* Center for Epidemiologic Studies Depression Scale</li> <li>* Zung Self-rating Depression Scale</li> </ul> </li> </ul> <p>Follow-Up Plan: Documented follow-up for a positive depression screening must include one or more of the following:</p> <ul style="list-style-type: none"> <li>* Referral to a practitioner who is qualified to diagnose and treat depression</li> <li>* Pharmacological interventions</li> <li>* Other interventions or follow-up for the diagnosis or treatment of depression</li> </ul>
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<p><b>Guidance:</b></p>	<p>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 practitioner who is qualified to treat depression, pharmacological interventions or other interventions for the treatment of depression.</p> <p>This eCQM is a patient-based measure. Depression screening is required once per measurement period, not at all encounters.</p> <p>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.</p> <p>Screening Tools:</p> <ul style="list-style-type: none"> <li>* An age-appropriate, standardized, and validated depression screening tool must be used for numerator compliance.</li> <li>* The name of the age-appropriate standardized depression screening tool utilized must be documented in the medical record.</li> <li>* The depression screening must be reviewed and addressed in the office of 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.</li> <li>* The screening should occur during a qualifying encounter or up to 14 days prior to the date of the qualifying encounter.</li> <li>* 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.</li> </ul> <p>Follow-Up Plan:</p> <p>The follow-up plan must be related to a positive depression screening, for example: "Patient referred for psychiatric evaluation due to positive depression screening."</p> <p>Examples of a follow-up plan include but are not limited to:</p> <ul style="list-style-type: none"> <li>* Referral to a practitioner 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</li> <li>* Other interventions designed to treat depression such as behavioral health evaluation, psychotherapy, pharmacological interventions, or additional treatment options</li> </ul>
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<b>Guidance: (cont.)</b>	Should a patient screen positive for depression, a clinician should 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.
<b>Initial Population:</b>	All patients aged 12 years and older at the beginning of the measurement period with at least one eligible encounter during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	Patients who have been diagnosed with depression or with bipolar disorder
<b>Numerator:</b>	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
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	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)
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.1.2 Data Entry

<b>Description:</b>	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.
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Enter encounter, patient age 12+ .

(Multiple OPD encounters accepted, (Value Set: 2.16.840.1.113883.3.600.1916).

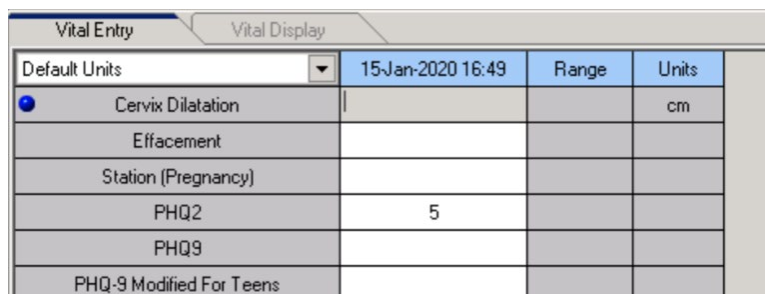
See Appendix A on Using Value Sets.

Exclusion if IPL 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.

Exceptions:

- Patient refusals (document in Personal Health component, wellness tab, exams).
- 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.
- Other: Situations where the patient's functional capacity or motivation to improve may impact the accuracy of results of standardized depression assessment tools. For example: certain court appointed cases or cases of delirium.

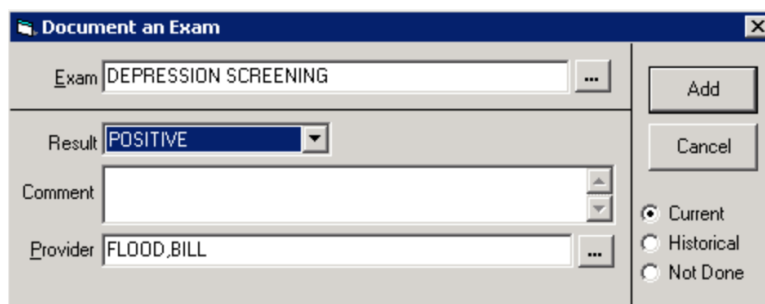
Screen patient for depression (PHQ 2), enter result in Vital Signs,



Default Units	15-Jan-2020 16:49	Range	Units
Cervix Dilatation			cm
Effacement			
Station (Pregnancy)			
PHQ2	5		
PHQ9			
PHQ-9 Modified For Teens			

Figure 3-1: Vital Entry tab

OR enter “positive” or “negative” in Exams.



Document an Exam

Exam: DEPRESSION SCREENING

Result: POSITIVE

Comment:

Provider: FLOOD,BILL

Buttons: Add, Cancel, Current, Historical, Not Done

Figure 3-2: Document an Exam dialog

- If depression screen is Negative (PHQ  $\leq 2$  score in vital signs, or “negative” screen in exams), this will be included in numerator.
- If depression screen is Positive (PHQ  $\geq 3$ , or “positive” exam), then must perform intervention on same day as encounter in order to be included in numerator. Multiple intervention options available (need only one):
  - Intervention: PHQ 9 or PHQt with any results (Vital Signs).
  - Referral or consult to mental health worker.

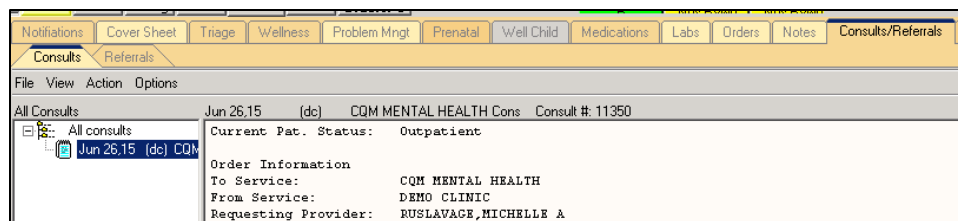


Figure 3-3: Consults tab

- Same day visit with mental health worker, POV mental health care management.
- Suicide risk assessment. Value set 2.16.840.1.113883.3.600.559.

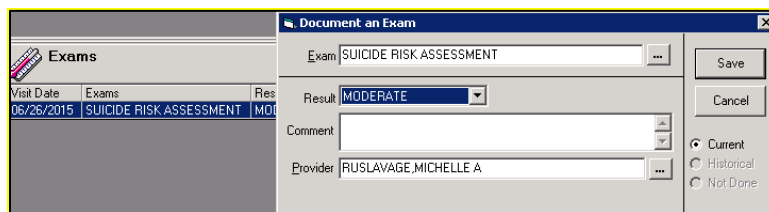


Figure 3-4: Document an Exam dialog

- Order medication for depression. See Appendix A on Using Value Sets.
  - (Value Set: 2.16.840.1.113883.3.600.469)-adolescent, or
  - (Value Set: 2.16.840.1.113883.3.600.470) -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)")
- 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 "Negative Depression Screening" (2.16.840.1.113883.3.526.3.1564)



- 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 "Positive Depression Screening" (2.16.840.1.113883.3.526.3.1565)
- 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 CMS22v9 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.

<b>Description:</b>	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
<b>Rationale:</b>	<p>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).</p> <p>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</p>

<b>Rationale: (cont.)</b>	<p>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 (&lt;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).</p> <p>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.</p>
<b>Definition:</b>	<p><b>Blood Pressure (BP) Classification:</b> BP is defined by four (4) BP reading classifications: Normal, Pre-Hypertensive, First Hypertensive, and Second Hypertensive Readings</p> <p><b>Recommended BP Follow-Up:</b> The Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) recommends BP screening intervals, lifestyle modifications and interventions based on the current BP reading as listed in the "Recommended Blood Pressure Follow-Up Interventions" listed below</p> <p><b>Recommended Lifestyle Modifications:</b> The JNC 7 report outlines lifestyle modifications which must include one or more of the following as indicated:</p> <ul style="list-style-type: none"> <li>* Weight Reduction</li> <li>* Dietary Approaches to Stop Hypertension (DASH) Eating Plan</li> <li>* Dietary Sodium Restriction</li> <li>* Increased Physical Activity</li> <li>* Moderation in alcohol (ETOH) Consumption</li> </ul> <p><b>Second Hypertensive Reading:</b></p>

<b>Definition: (cont.)</b>	<p>Requires a BP reading of systolic BP <math>\geq</math> 140 mmHg OR diastolic BP <math>\geq</math> 90 mmHg during the current encounter AND a most recent BP reading within the last 12 months systolic BP <math>\geq</math> 140 mmHg OR diastolic BP <math>\geq</math> 90 mmHg</p> <p>Second Hypertensive Reading BP Interventions: The JNC 7 report outlines BP follow-up interventions for a second hypertensive BP reading and must include one or more of the following as indicated:</p> <ul style="list-style-type: none"> <li>* Anti-Hypertensive Pharmacologic Therapy</li> <li>* Laboratory Tests</li> <li>* Electrocardiogram (ECG)</li> </ul> <p>Recommended Blood Pressure Follow-Up Interventions:</p> <ul style="list-style-type: none"> <li>* Normal BP: No follow-up required for systolic BP <math>&lt;</math> 120 mmHg AND diastolic BP <math>&lt;</math> 80 mmHg</li> <li>* Pre-Hypertensive BP: Follow-up with rescreen every year with systolic BP of 120-139 mmHg OR diastolic BP of 80-89 mmHg AND recommend lifestyle modifications OR referral to Alternative/Primary Care Provider</li> <li>* First Hypertensive BP Reading: Patients with one elevated reading of systolic BP <math>\geq</math> 140 mmHg OR diastolic BP <math>\geq</math> 90 mmHg: <ul style="list-style-type: none"> <li>* Follow-up with rescreen <math>&gt;</math> 1 day and <math>&lt;</math> 4 weeks AND recommend lifestyle modifications OR referral to Alternative/Primary Care Provider</li> </ul> </li> <li>* Second Hypertensive BP Reading: Patients with second elevated reading of systolic BP <math>\geq</math> 140 mmHg OR diastolic BP <math>\geq</math> 90 mmHg: <ul style="list-style-type: none"> <li>* Follow-up with Recommended lifestyle recommendations AND one or more of the Second Hypertensive Reading Interventions OR referral to Alternative/Primary Care Provider</li> </ul> </li> </ul>
<b>Guidance</b>	<p>This eCQM is an episode-based measure and should be reported at every visit for patients aged 18 years and older. This measure will be calculated based upon the clinical actions performed at every visit during the measurement period for each patient. 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.</p> <p>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."</p>
<b>Initial Population</b>	All patient visits for patients aged 18 years and older at the beginning of the measurement period
<b>Denominator</b>	Equals Initial Population

<b>Denominator Exclusions</b>	Patient has an active diagnosis of hypertension.
<b>Numerator</b>	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 pre-hypertensive or hypertensive.
<b>Numerator Exclusions</b>	Not applicable
<b>Denominator Exceptions</b>	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 is pre-hypertensive or hypertensive (e.g., patient refuses).
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

### 3.2.2 Data Entry

<b>Description</b>	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
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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.

Exclusion if patient has an active diagnosis of hypertension.

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”).

Reproductive history    Infant Feeding    **Personal Health**    PHN

**Personal Health**    Refusal    Add    Ed

Enter Service Not Provided / Refusal

Refusal Type

<input type="checkbox"/> CPT	<input checked="" type="checkbox"/> Measurement
<input type="checkbox"/> EKG	<input type="checkbox"/> Medication/Drug
<input type="checkbox"/> Exam	<input type="checkbox"/> PAP Smear
<input type="checkbox"/> Immunization	<input type="checkbox"/> Radiology Exam
<input type="checkbox"/> Lab	<input type="checkbox"/> Skin Test
<input type="checkbox"/> Mammogram	<input type="checkbox"/> SNOMED

Measurement: BLOOD PRESSURE

Reason: Refusal of treatment by patient

Date Refused: 08/30/2021

FLOOD,WILLIAM

Figure 3-5: 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)

Follow Up

- Follow-up 1 day
- Follow-up arranged
- Follow-up 1 month
- Follow-up 1 week
- Follow-up 1 year
- Follow-up 2 weeks
- Follow-up 2-3 days
- Follow-up 2-3 months
- Follow-up 3 weeks
- Follow-up 4-6 days
- Follow-up 4-6 months
- Follow-up 6 months
- Follow-up 6 weeks
- Follow-up 7-11 months
- Patient informed - arrange follow-up care

Figure 3-6 :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)

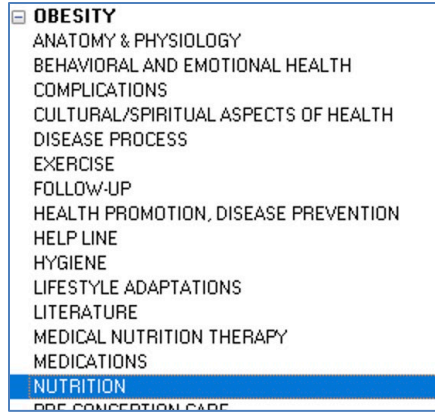


Figure 3-7: Obesity options

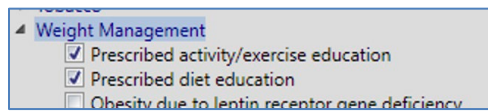


Figure 3-8: Weight management options

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

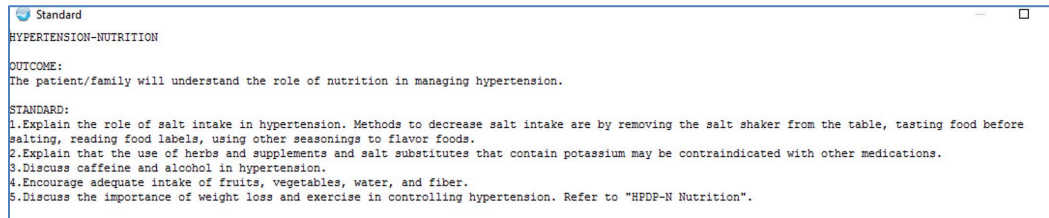


Figure 3-9: Hypertension Nutrition

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

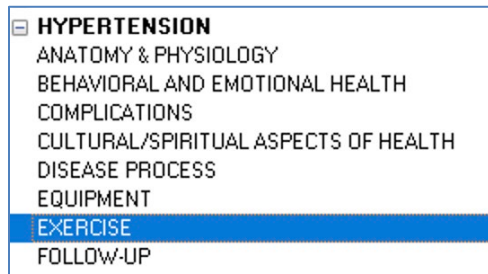


Figure 3-10: Hypertension options

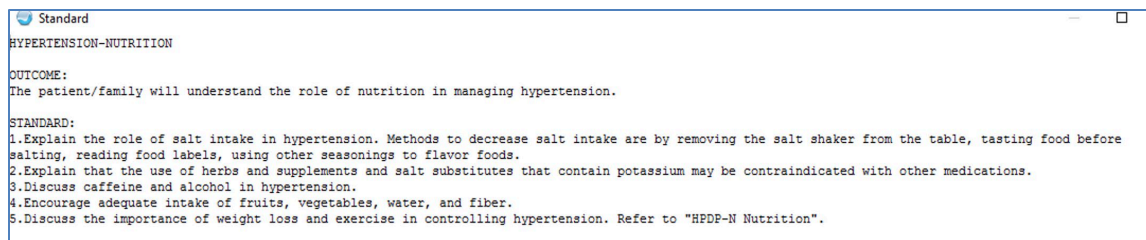


Figure 3-11: Hypertension Nutrition

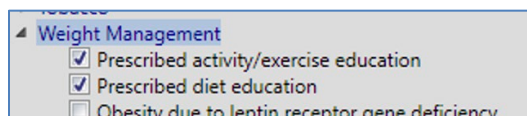


Figure 3-12: Weight Management options

- 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 "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 "Follow Up Within One Year" (2.16.840.1.113883.3.526.3.1579)
- 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 Within One Year" using "Follow Up Within One Year (2.16.840.1.113883.3.526.3.1579)"
- "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 Within One Year" using "Follow Up Within One Year (2.16.840.1.113883.3.526.3.1579)"
- "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 CMS50v9 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.

<b>Description:</b>	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.
<b>Rationale:</b>	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.

<b>Rationale (cont):</b>	<p>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).</p> <p>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 Hooff, van der Wouden, Moorman &amp; van Bommel (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).</p> <p>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.</p>
<b>Definition:</b>	<p><b>Referral:</b> 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 &amp; Medicaid Services.</p> <p><b>Report:</b> 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.</p>

<b>Guidance:</b>	<p>The provider who refers the patient to another provider is the provider who should be held accountable for the performance of this measure.</p> <p>The provider to whom the patient was referred should be the same provider that sends the report.</p> <p>If there are multiple referrals for a patient during the measurement period, use the first referral.</p> <p>The consultant report that will fulfill the referral should be completed after the referral and should be related to the referral for which it is attributed. 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.</p> <p>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.</p>
<b>Initial Population:</b>	Number of patients, regardless of age, who were referred by one provider to another provider, and who had a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	None.
<b>Numerator:</b>	Number of patients with a referral, for which the referring provider received a report from the provider to whom the patient was referred.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.3.2 Data Entry

<b>Description:</b>	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.
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Patient visit during measurement period (any age), face to face encounter.

Multiple OPD encounters accepted.

Ophthalmology (Value Set 2.16.840.1.113883.3.526.3.1285).

Preventive care (Value Sets 2.16.840.1.113883.3.464.1003.101.12.1022, ...1023, ...1024, ...1025)

Office visits (Value Set 2.16.840.1.113883.3.464.1003.101.12.1001)

See Appendix A on using Value Sets.

Referral made anytime during measurement period (RCIS).

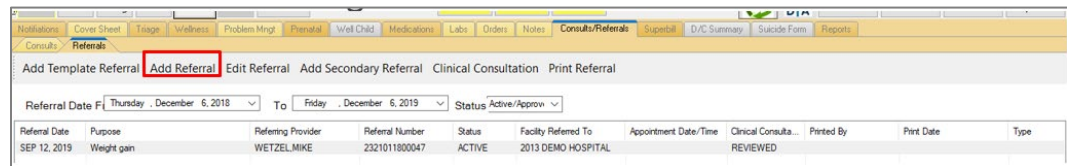


Figure 3-13: Add Referral pane

Patient visits referred provider, consult report completed.

Report received, attached to note with provider identified as signer, signed as received by provider (RCIS).

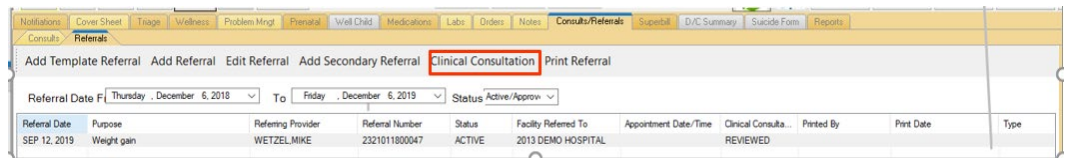


Figure 3-14 :Clinical Consultation pane

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 CMS69v9 Preventive Care and Screening: BMI Screening and Follow-Up Plan

#### 3.4.1 Detail

<b>Description:</b>	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.
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<b>Rationale:</b>	<p><b>BMI Above Normal Parameters</b></p> <p>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, 2013). Hales et al. (2017), report that the prevalence of obesity among adults and youth in the United States was 39.8% and 18.5% respectively, from 2015-2016. They note that obesity prevalence was higher among adults in the 40-59 age bracket than those in the 20-39 age bracket, for both men and women. Hales et al. (2017) also disaggregated the data according to ethnicity and noted that obesity prevalence was higher among non-Hispanic black and Hispanic adults and youth when compared with other races ethnicities. While obesity prevalence was lower among non-Hispanic Asian men and women, obesity prevalence among men, was comparable between non-Hispanic black and non-Hispanic white men. Obesity prevalence was higher among Hispanic men compared with non-Hispanic black men. While the prevalence among non-Hispanic black and Hispanic women was comparable, the prevalence for both groups was higher than that of non-Hispanic white women. Most notably, Hales et al. (2017), report that the prevalence of obesity in the United States remains higher than the Healthy People 2020 goals of 14.5% among youth and 30.5% among adults.</p> <p>More than a third of U.S. adults have a body mass index [BMI] <math>\geq</math> 30 kg/m<sup>2</sup>; substantially at increased risk for diabetes and cardiovascular disease (CVD) (Flegal et al., 2012; Ogden et al., 2014). Behavioral weight management treatment has been identified as an effective first-line treatment for obesity with an average initial weight loss of eight to ten percent. This percentage weight loss is associated with a significant risk reduction for diabetes and CVD (Wadden, Butryn &amp; Wilson, 2007). Despite the availability of effective interventions, two-thirds of obese U.S. patients were not offered or referred to weight management treatment during their primary care visit between 2005 and 2006, (Ma et al., 2009). In addition, the rate of weight management counseling in primary care significantly decreased by ten percent (40% to 30%) between 1995-1996 and 2007-2008 (Kraschnewski et al., 2013). This suggests that the availability of evidence based clinical guidelines since 2008 obesity management in primary care remains suboptimal (Fitzpatrick &amp; Stevens, 2017).</p> <p>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. BMI is not a direct measure of adiposity and as a consequence it can over or underestimate adiposity. BMI is a derived value that correlates well with total</p>
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<b>Rationale: (cont.)</b>	<p>body fat and markers of secondary complications, e.g., hypertension and dyslipidemia (Barlow &amp; the Expert Committee, 2007).</p> <p>In contrast with waist circumference, BMI and its associated disease and mortality risk appear to vary among ethnic subgroups. Female African American populations appear to have the lowest mortality risk at a BMI of 26.2-28.5 kg/m<sup>2</sup> and 27.1-30.2 kg/m<sup>2</sup> for women and men, respectively. In contrast, Asian populations may experience lowest mortality rates starting at a BMI of 23 to 24 kg/m<sup>2</sup>. The correlation between BMI and diabetes risk also varies by ethnicity (LeBlanc et al., 2011, pp. 2-3).</p> <p>Screening for BMI and follow-up therefore is critical to closing this gap and contributes to 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 clinical judgment and take these into account when considering weight management programs for overweight patients, especially the elderly (National Heart, Lung, and Blood Institute [NHLBI] Obesity Education Initiative, 1998, p. 91).</p> <p>It is important to enhance beneficiary access to all existing providers of Intensive Behavioral Therapy for obesity (IBT) which would result in decreased healthcare costs and lower obesity rates. Dietary counseling performed by a Registered Dietitian Nutritionist (RDN) is more effective than by a primary care clinician. IBT provided by RDNs for 6-12 months shows significant mean weight loss of up to 10% of body weight, maintained over one year's time (Raynor &amp; Champagne, 2016).</p> <p><b>BMI below Normal Parameters</b></p> <p>On the other end of the body weight spectrum is underweight (BMI &lt; 18.5 kg/m<sup>2</sup>), which is equally detrimental to population health. When compared to normal weight individuals (BMI 18.5-25 kg/m<sup>2</sup>), underweight individuals have significantly higher death rates with a Hazard Ratio of 2.27 and 95% confidence intervals (CI) = 1.78, 2.90 (Borrell &amp; Lalitha, 2014).</p> <p>Poor nutrition or underlying health conditions can result in underweight (Fryar &amp; Ogden, 2012). The National Health and Nutrition Examination Survey (NHANES) results from the 2007-2010 indicate that women are more likely to be underweight than men. Therefore patients should be equally screened for underweight and followed up with nutritional counselling to reduce mortality and morbidity associated with underweight.</p>
<b>Clinical Recommendation Statement:</b>	<p>All adults should be screened annually using a BMI measurement. BMI measurements <math>\geq</math> 25 kg/m<sup>2</sup> 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).</p>

<p><b>Clinical Recommendation Statement: (cont.)</b></p>	<p>Overweight and Underweight Categories: Underweight &lt; 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 &gt;= 40 (Garvey et al., 2016 AACE/ACE Guidelines, 2016, p. 15).</p> <p>BMI cutoff point value of &gt;= 23 kg/m<sup>2</sup> 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).</p> <p>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).</p> <p>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).</p> <p>The USPSTF recommends that clinicians offer or refer adults with a body mass index (BMI) of 30 kg/m<sup>2</sup> or higher to intensive, multicomponent behavioral interventions (USPSTF, 2018) (Grade B).</p> <p>Interventions:</p> <ul style="list-style-type: none"> <li>- Effective intensive behavioral interventions were designed to help participants achieve or maintain a &gt;= 5% weight loss through a combination of dietary changes and increased physical activity</li> <li>- Most interventions lasted for 1 to 2 years, and the majority had &gt;= 12 sessions in the first year</li> <li>- Most behavioral interventions focused on problem solving to identify barriers, self-monitoring of weight, peer support, and relapse prevention</li> <li>- Interventions also provided tools to support weight loss or weight loss maintenance (e.g., pedometers, food scales, or exercise videos) (USPSTF, 2018)</li> </ul> <p>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 accompanied</p>
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<b>Clinical Recommendation Statement: (cont.)</b>	by 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)
<b>Definition:</b>	<p>Normal BMI Parameters: Age 18 years and older BMI <math>\geq</math> 18.5 and <math>&lt;</math> 25 kg/m<sup>2</sup></p> <p>BMI- Body mass index (BMI) is a number calculated using the Quetelet index: weight divided by height squared (W/H<sup>2</sup>) and is commonly used to classify weight categories. BMI can be calculated using:</p> <p>Metric Units: BMI = Weight (kg) / (Height (m) x Height (m))</p> <p>OR</p> <p>English Units: BMI = Weight (lbs.) / (Height (in) x Height (in)) x 703</p> <p>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</p>

<b>Guidance:</b>	<p>* 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.</p> <p>* There is no diagnosis associated with this measure.</p> <p>* 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 visit and the measure-specific denominator coding.</p> <p><b>BMI Measurement Guidance:</b></p> <p>* 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.</p> <p>* The BMI may be documented in the medical record of the provider or in outside medical records obtained by the provider.</p> <p>* 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.</p> <p>* 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.</p> <p>* Review the exclusions and exceptions criteria to determine those patients that BMI measurement may not be appropriate or necessary.</p> <p><b>Follow-Up Plan Guidance:</b></p> <p>* 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).</p> <p>Variation has been noted in studies exploring optimal BMI ranges for the elderly (see Donini et al., [2012]; Holme &amp; 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 <math>\geq 18.5</math> and <math>&lt; 25</math> kg/m<sup>2</sup>. 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/m<sup>2</sup>) in the elderly may be beneficial. Similarly, worse outcomes have been associated with being underweight (at a threshold higher than 18.5 kg/m<sup>2</sup>) 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.</p>
<b>Initial Population:</b>	All patients 18 and older on the date of the encounter with at least one eligible encounter during the measurement period.
<b>Denominator:</b>	Equals Initial Population
<b>Denominator Exclusions:</b>	Patients who are pregnant Patients receiving palliative or hospice care

<b>Numerator:</b>	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
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	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 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
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.4.2 Data Entry

<b>Description:</b>	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/m <sup>2</sup> .
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- Visit, patient age 18+
- 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.
- Exclude patients with pregnancy diagnosis, palliative care diagnosis (e.g., hospice, comfort measures in IPL), patient refusals
- 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.
- If BMI outside of normal range (18.5-25 kg/m<sup>2</sup>) 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 CMS117 V9 Childhood Immunization Status

### 3.5.1 Detail

<b>Description:</b>	Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV), one measles, mumps and rubella (MMR); 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
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<b>Rationale:</b>	<p>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).</p> <p>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).</p>
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<p><b>Clinical Recommendation Statement:</b></p>	<p>Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States 2019 (Centers for Disease Control and Prevention, 2019)</p> <p>Hepatitis B (HepB)  "(minimum age: birth)  Birth dose (monovalent HepB vaccine only)  -- Mother is HBsAg-negative: 1 dose within 24 hours of birth for all medically stable infants <math>\geq 2,000</math> grams. Infants <math>&lt; 2,000</math> grams: administer 1 dose at chronological age 1 month or hospital discharge.  -- Mother is HBsAg-positive:  - Administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) (at separate anatomic sites) within 12 hours of birth, regardless of birth weight. For infants <math>&lt; 2,000</math> grams, administer 3 additional doses of vaccine (total of 4 doses) beginning at age 1 month.  - Test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose.  -- Mother's HBsAg status is unknown:  - Administer HepB vaccine within 12 hours of birth, regardless of birth weight.  - For infants <math>&lt; 2,000</math> grams, administer 0.5 mL of HBIG in addition to HepB vaccine within 12 hours of birth. Administer 3 additional doses of vaccine (total of 4 doses) beginning at age 1 month.  - Determine mother's HBsAg status as soon as possible. If mother is HBsAg-positive, administer 0.5 mL of HBIG to infants <math>\geq 2,000</math> grams as soon as possible, but no later than 7 days of age.</p> <p>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) "</p> <p>Diphtheria, tetanus, acellular pertussis vaccinations (DTap)  "(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 given as early as age 12 months if at least 6 months have elapsed since dose 3.  - Retrospectively: A 4th dose that was inadvertently given as early as 12 months may be counted if at least 4 months have elapsed since dose 3."</p> <p>Haemophilus influenzae type b (Hib)  "(minimum age: 6 weeks)  Routine vaccination</p>
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<p><b>Clinical Recommendation Statement: (cont.)</b></p>	<p>-- ActHIB, Hiberix, or Pentacel: 4-dose series at 2, 4, 6, 12–15 months  -- PedvaxHIB: 3-dose series at 2, 4, 12–15 months"</p> <p>Poliovirus (inactivated) (IPV)  "(minimum age: 6 weeks)  Routine vaccination  -- 4-dose series at ages 2, 4, 6–18 months, 4–6 years; administer the final dose on or after the 4th birthday and at least 6 months after the previous dose.  -- 4 or more doses of IPV can be administered before the 4th birthday when a combination vaccine containing IPV is used. However, a dose is still recommended after the 4th birthday and at least 6 months after the previous dose."</p> <p>Measles, mumps, and rubella (MMR)  "(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"</p> <p>Pneumococcal  "(minimum age: 6 weeks [PCV13], 2 years [PPSV23])  Routine vaccination with PCV13  -- 4-dose series at 2, 4, 6, 12–15 months"</p> <p>Varicella (VAR)  "(minimum age: 12 months)  Routine vaccination  -- 2-dose series: 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)."</p> <p>Hepatitis A (HepA)  "(minimum age: 12 months for routine vaccination)  Routine vaccination  -- 2-dose series (Havrix 6–12 months apart or Vaqta 6–18 months apart, minimum interval 6 months); a series begun before the 2nd birthday should be completed even if the child turns 2 before the second dose is administered."</p> <p>Rotavirus (RV)  "(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."</p> <p>Influenza (inactivated) influenza vaccine (IIV)  "(minimum age: 6 months [IIV], 2 years [LAIV], 18 years [RIV])  Routine vaccination  -- 1 dose any influenza vaccine appropriate for age and health status annually (2 doses separated by at least 4 weeks for</p>
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<b>Clinical Recommendation Statement: (cont.)</b>	children 6 months–8 years who did not receive at least 2 doses of influenza vaccine before July 1, 2018)"
<b>Definition:</b>	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.
<b>Guidance:</b>	<p>For the MMR, hepatitis B, VZV and hepatitis A vaccines, numerator inclusion criteria include: evidence of receipt of the recommended vaccine; documented history of the illness; or, a seropositive test result for the antigen. For the DTaP, IPV, Hib, pneumococcal, rotavirus, and influenza vaccines, numerator inclusion criteria include only evidence of receipt of the recommended vaccine.</p> <p>Patients may be included in the numerator for a particular antigen if they had an anaphylactic reaction to the vaccine. Patients may be included in the numerator for the DTaP vaccine if they have encephalopathy. Patients may be included in the numerator for the IPV vaccine if they have had an anaphylactic reaction to streptomycin, polymyxin B, or neomycin. Patients may be included in the numerator for the influenza, MMR, or varicella vaccines if they have cancer of lymphoreticular or histiocytic tissue, multiple myeloma, leukemia, have had an anaphylactic reaction to neomycin, have immunodeficiency, or have HIV. Patients may be included in the numerator for the hepatitis B vaccine if they have had an anaphylactic reaction to common baker's yeast.</p> <p>The measure allows a grace period by measuring compliance with these recommendations between birth and age two.</p> <p>This eCQM is a patient-based measure.</p>
<b>Denominator:</b>	Equals Initial Population
<b>Denominator Exclusions:</b>	Exclude patients whose hospice care overlaps the measurement period
<b>Numerator:</b>	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
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.5.2 Data Entry

<b>Description:</b>	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.
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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.

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).

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 "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 "Influenza virus vaccine adverse reaction (disorder)" ("SNOMEDCT Code (420113004)")
- code "Neomycin adverse reaction (disorder)" ("SNOMEDCT Code (292927007)")
- code "Pneumococcal vaccine adverse reaction (disorder)" ("SNOMEDCT Code (293116002)")
- code "Poliomyelitis vaccine adverse reaction (disorder)" ("SNOMEDCT Code (293117006)")
- 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 "Anaphylactic Reaction to Hepatitis A Vaccine" (2.16.840.1.113883.3.464.1003.199.12.1026)



- 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 "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 "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 "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: 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: Anaphylactic Reaction to Hepatitis A Vaccine" using "Anaphylactic Reaction to Hepatitis A Vaccine (2.16.840.1.113883.3.464.1003.199.12.1026)"
- "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: Influenza virus vaccine adverse reaction (disorder)" using "Influenza virus vaccine adverse reaction (disorder) (SNOMEDCT Code 420113004)"
- "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: Pneumococcal vaccine adverse reaction (disorder)" using "Pneumococcal vaccine adverse reaction (disorder) (SNOMEDCT Code 293116002)"
- "Diagnosis: Poliomyelitis vaccine adverse reaction (disorder)" using "Poliomyelitis vaccine adverse reaction (disorder) (SNOMEDCT Code 293117006)"
- "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 Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "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)"
- "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: 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: 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 CMS122V9 Diabetes: Hemoglobin A1c Poor Control (> 9%)

#### 3.6.1 Detail

<b>Description:</b>	Percentage of patients 18-75 years of age with diabetes who had hemoglobin A1c > 9.0% during the measurement period.
<b>Rationale:</b>	<p>As the seventh leading cause of death in the U.S., diabetes kills approximately 79,500 people a year and affects more than 30 million Americans (9.4 percent of the U.S. population) (Centers for Disease Control and Prevention [CDC], 2017a, 2017b). 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, 2019). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney failure, amputation of toes, feet or legs, and premature death (CDC, 2016).</p> <p>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).</p> <p>Controlling A1c blood levels help reduce the risk of microvascular complications (eye, kidney and nerve diseases) (CDC, 2014).</p>



<b>Clinical Recommendation Statement :</b>	<p>American Diabetes Association (2019):</p> <ul style="list-style-type: none"> <li>-A reasonable A1c goal for many non-pregnant adults is &lt;7% (Level of evidence: A)</li> <li>-Providers might reasonable suggest more stringent A1c goals (such as &lt;6.5%[448mmol/mol]) for selected individual patients if this can be achieved without significant hypoglycemia or other adverse effects pf treatment (i.e. polypharmacy). Appropriate patients might include those with short duration of diabetes, type 2 diabetes treated with lifestyle or metformin only, long life expectancy, or no significant cardiovascular disease (CVD). (Level of evidence: C)</li> <li>- Less stringent A1C goals (such as &lt;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)</li> </ul>
<b>Guidance:</b>	<p>Patient is numerator compliant if most recent HbA1c level &gt;9%, the most recent HbA1c result is missing, or if there are no HbA1c tests performed, and results documented during the measurement period. If the HbA1c test result is in the medical record, the test can be used to determine numerator compliance.</p> <p>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.</p> <p>This eCQM is a patient-based measure.</p>
<b>Initial Population:</b>	Patients 18-75 years of age with diabetes with a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	<p>Exclude patients whose hospice care overlaps the measurement period.</p> <p>Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period.</p> <p>Exclude patients 66 and older with advanced illness and frailty because it is unlikely that patients will benefit from the services being measured.</p>
<b>Numerator:</b>	Patients whose most recent HbA1c level (performed during the measurement period) is >9.0%.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None

<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.
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### 3.6.2 Data Entry

<b>Description:</b>	Percentage of patients 18-75 years of age with diabetes who had hemoglobin A1c > 9% during the measurement period.
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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)")
- 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 "ED" (2.16.840.1.113883.3.464.1003.101.12.1085)
- 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 "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)

### 3.6.4 Data Criteria (QDM Data Elements)

- "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: ED" using "ED (2.16.840.1.113883.3.464.1003.101.12.1085)"
- "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: 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)"
- "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: 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

<b>Description:</b>	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
<b>Rationale:</b>	All women are at risk for cervical cancer. In 2019, an estimated 13,170 women were diagnosed with cervical cancer in the U.S., resulting in an estimated 4,250 deaths (National Cancer Institute, 2019). If pre-cancerous lesions are detected early by Pap tests and treated, the likelihood of survival is nearly 100 percent (American Cancer Society, 2019)

<b>Clinical Recommendation Statement:</b>	<p>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)"</p> <p>"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)"</p> <p>"The USPSTF recommends against screening for cervical cancer in women younger than 21 years. (D recommendation)"</p> <p>"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)"</p>
<b>Guidance:</b>	<p>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.</p> <p>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.</p> <p>This eCQM is a patient-based measure.</p>
<b>Initial Population:</b>	Women 23-64 years of age with a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	<p>Women who had a hysterectomy with no residual cervix or a congenital absence of cervix.</p> <p>Exclude patients whose hospice care overlaps the measurement period.</p>
<b>Numerator:</b>	<p>Women with one or more screenings for cervical cancer. Appropriate screenings are defined by any one of the following criteria:</p> <ul style="list-style-type: none"> <li>* 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</li> <li>* 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</li> </ul>
<b>Numerator Exclusions:</b>	Not Applicable.

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

### 3.7.2 Data Entry

<b>Description:</b>	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.
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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:

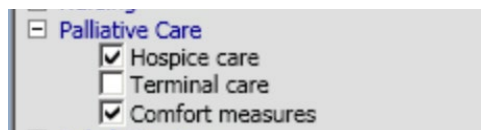


Figure 3-15: Palliative Care list

- 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 3-16: Order a Lab Test dialog

### 3.7.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- code "Congenital absence of cervix (disorder)" ("SNOMEDCT Code (37687000)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- 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 "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)

### 3.7.4 Data Criteria (QDM Data Elements)

- "Diagnosis: Congenital absence of cervix (disorder)" using "Congenital absence of cervix (disorder) (SNOMEDCT Code 37687000)"
- "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 - 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)"
- "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: 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 CMS125V9 Breast Cancer Screening

### 3.8.1 Detail

<b>Description:</b>	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
<b>Rationale:</b>	<p>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).</p> <p>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).</p> <p>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).</p>

<p><b>Clinical Recommendation Statement:</b></p>	<p>The U.S. Preventive Services Task Force (USPSTF) recommends biennial screening mammography for women aged 50-74 years (B recommendation).</p> <p>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)</p> <p>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)</p> <p>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)</p> <p>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)</p>
<p><b>Guidance</b></p>	<p>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.</p> <p>This measure evaluates primary screening. Do not count biopsies, breast ultrasounds, or MRIs because they are not appropriate methods for primary breast cancer screening.</p> <p>This eCQM is a patient-based measure.</p>
<p><b>Initial Population:</b></p>	<p>Women 51-74 years of age with a visit during the measurement period</p>
<p><b>Denominator:</b></p>	<p>Equals Initial Population</p>
<p><b>Denominator Exclusions:</b></p>	<p>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.</p> <p>Exclude patients whose hospice care overlaps the measurement period.</p> <p>Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period.</p> <p>Exclude patients 66 and older with advanced illness and frailty because it is unlikely that patients will benefit from the services being measured.</p>

<b>Numerator:</b>	Women with one or more mammograms during the 27 months prior to the end of the measurement period.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.8.2 Data Entry

<b>Description:</b>	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer.
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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:

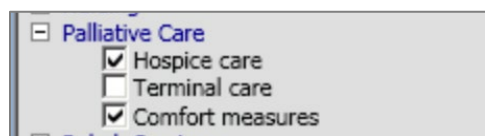


Figure 3-17: Palliative Care list

- 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 "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 "ED" (2.16.840.1.113883.3.464.1003.101.12.1085)
- 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 "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- 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 "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)

- "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: ED" using "ED (2.16.840.1.113883.3.464.1003.101.12.1085)"
- "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: 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)"
- "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)"
- "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 CMS127V9 Pneumococcal Vaccination Status for Older Adults

### 3.9.1 Detail

<b>Description:</b>	Percentage of patients 65 years of age and older who have ever received a pneumococcal vaccine.
<b>Rationale:</b>	<p>Pneumonia is a common cause of illness and death in the elderly and persons with certain underlying conditions. The major clinical syndromes of pneumococcal disease include pneumonia, bacteremia and meningitis, with pneumonia being the most common (Centers for Disease Control and Prevention [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 percent-7 percent mortality rate, although it may be higher among older adults and adults in nursing homes (CDC, 2015b; Janssens &amp; Krause, 2004).</p> <p>Among the 91.5 million US adults aged &gt; 50 years, 29,500 cases of IPD, 502,600 cases of nonbacteremic pneumococcal pneumonia and 25,400 pneumococcal-related deaths are estimated to occur yearly; annual direct and indirect costs are estimated to total \$3.7 billion and \$1.8 billion, respectively. Pneumococcal disease remains a substantial burden among older US adults, despite increased coverage with 23-valent pneumococcal polysaccharide vaccine, (PPV23) and indirect benefits afforded by PCV7 vaccination of young children (Weycker et al., 2011).</p> <p>Pneumococcal vaccines have been shown to be highly effective in preventing invasive pneumococcal disease. When comparing costs, outcomes and quality adjusted life years, immunization with the two 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).</p>

<b>Clinical Recommendation Statement:</b>	<p>In 2014, the Advisory Committee on Immunization Practices (ACIP) began recommending a dose of 13-valent pneumococcal conjugate vaccine (PCV13) be followed by a dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23) 6-12 months later in adults aged 65 and older who have not previously received a pneumococcal vaccination, and in persons over the age of two years who are considered to be at higher risk for pneumococcal disease due to an underlying condition. The two vaccines should not be coadministered and intervals for administration of the two vaccines vary slightly depending on the age, risk group, and history of vaccination (Kobayashi et al., 2015).</p> <p>In 2015, ACIP updated its recommendation and changed the interval between PCV13 and PPSV23, from 6-12 months to at least one year for immunocompetent adults aged <math>\geq 65</math> years who have not previously received pneumococcal vaccine. For immunocompromised vaccine-naïve adults, the minimum acceptable interval between PCV13 and PPSV23 is 8 weeks. Both immunocompetent and immunocompromised adults aged <math>\geq 65</math> years who have previously received a dose of PPSV23 when over the age of 65 should receive a dose of PCV13 at least one year after PPSV23 (<math>\geq 1</math> year). Immunocompetent and immunocompromised adults aged <math>\geq 65</math> who have previously received a dose of PPSV23 when under the age of 65, should also receive a dose of PCV13 at least one year after PPSV23 (<math>\geq 1</math> year) and then another dose of PPSV23 at least one year after PCV13. It is recommended that for those that have this alternative three-dose schedule (2 PPSV23 and 1 PCV13), the three doses should be spread over a time period of five or more years (Kobayashi et al., 2015).</p>
<b>Guidance:</b>	<p>Patient self-report for procedures as well as immunization s should be recorded in 'Procedure, Performed' template or 'Immunization, Administered' template in QRDA-1.</p> <p>ACIP (Kobayashi, 2015) provides guidance about the proper interval and relative timing for the administration of two pneumococcal vaccines; this measure assesses whether patients have received at least one of either vaccine.</p>
<b>Initial Population:</b>	Patients 65 years of age and older with a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	Exclude patients whose hospice care overlaps the measurement period.
<b>Numerator:</b>	Patients who have ever received a pneumococcal vaccination before the end of the measurement period
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.

<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.
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### 3.9.2 Data Entry

<b>Description:</b>	Percentage of patients 65 years of age and older who have ever received a pneumococcal vaccine.
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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:

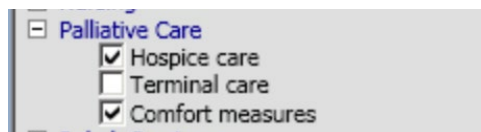


Figure 3-18: Palliative Care list

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 "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 "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 "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Pneumococcal Vaccine" (2.16.840.1.113883.3.464.1003.110.12.1027)
- valueset "Pneumococcal Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1034)
- 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)

### 3.9.4 Data Criteria (QDM Data Elements)

- "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 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, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Immunization, Administered: Pneumococcal Vaccine" using "Pneumococcal Vaccine (2.16.840.1.113883.3.464.1003.110.12.1027)"
- "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 Vaccine Administered" using "Pneumococcal Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1034)"

## 3.10 CMS130V9 Colorectal Cancer Screening

### 3.10.1 Detail

<b>Description:</b>	Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer
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<b>Rationale:</b>	<p>Colorectal cancer represents eight percent of all new cancer cases and is the second leading cause of cancer deaths in the United States. In 2019, an estimated 145,600 new cases of colorectal cancer and an estimated 51,020 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, 2019).</p> <p>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, 2018).</p>
<b>Clinical Recommendation Statement:</b>	<p>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:</p> <ul style="list-style-type: none"> <li>-Colonoscopy (every 10 years)</li> <li>-Flexible sigmoidoscopy (every 5 years)</li> <li>-Fecal occult blood test (annually)</li> <li>-FIT-DNA (every 3 years)</li> <li>-Computed tomographic colonography (every 5 years)</li> </ul>
<b>Guidance</b>	<p>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.</p> <p>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.</p> <p>This eCQM is a patient-based measure.</p>
<b>Initial Population:</b>	Patients 50-75 years of age with a visit during the measurement period
<b>Denominator:</b>	Equals Initial Population

<b>Denominator Exclusions:</b>	<p>Exclude patients whose hospice care overlaps the measurement period.</p> <p>Exclude patients with a diagnosis or past history of total colectomy or colorectal cancer.</p> <p>Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period.</p> <p>Exclude patients 66 and older with advanced illness and frailty because it is unlikely that patients will benefit from the services being measured.</p>
<b>Numerator:</b>	<p>Patients with one or more screenings for colorectal cancer. Appropriate screenings are defined by any one of the following criteria:</p> <ul style="list-style-type: none"> <li>- Fecal occult blood test (FOBT) during the measurement period</li> <li>- Flexible sigmoidoscopy during the measurement period or the four years prior to the measurement period</li> <li>- Colonoscopy during the measurement period or the nine years prior to the measurement period</li> <li>- FIT-DNA during the measurement period or the two years prior to the measurement period</li> <li>- CT Colonography during the measurement period or the four years prior to the measurement period</li> </ul>
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.10.2 Data Entry

<b>Description:</b>	Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer.
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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:

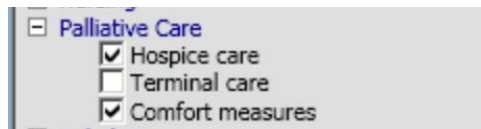


Figure 3-19: Palliative Care list

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).
- before end of measurement period.

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)")
- 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 "ED" (2.16.840.1.113883.3.464.1003.101.12.1085)
- 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 "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- 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 "Total Colectomy" (2.16.840.1.113883.3.464.1003.198.12.1019)

### 3.10.4 Data Criteria (QDM Data Elements)

- "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: ED" using "ED (2.16.840.1.113883.3.464.1003.101.12.1085)"
- "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: 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)"
- "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: 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 CMS131V9 Diabetes: Eye Exam

### 3.11.1 Detail

<b>Description:</b>	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
<b>Rationale:</b>	<p>As the seventh leading cause of death in the U.S., diabetes kills approximately 79,500 people a year and affects more than 30 million Americans (9.4 percent of the U.S. population) (Centers for Disease Control and Prevention [CDC], 2017a, 2017b). 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, 2019). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney failure, amputation of toes, feet or legs, and premature death (CDC, 2016).</p> <p>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).</p> <p>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, 2015).</p>

<b>Clinical Recommendation Statement:</b>	<p>American Diabetes Association (2019):</p> <ul style="list-style-type: none"> <li>- 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)</li> <li>- 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)</li> <li>-If there is no evidence of retinopathy for one or more annual eye exam and glycemia is well controlled, then exams 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)</li> </ul>
<b>Guidance</b>	<p>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.</p> <p>The eye exam must be performed by an ophthalmologist or optometrist.</p>
<b>Initial Population:</b>	Patients 18-75 years of age with diabetes with a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	<p>Exclude patients whose hospice care overlaps the measurement period.</p> <p>Exclude patients 66 and older who are living long term in an institution for more than 90 days during the measurement period.</p> <p>Exclude patients 66 and older with advanced illness and frailty because it is unlikely that patients will benefit from the services being measured.</p>
<b>Numerator:</b>	<p>Patients with an eye screening for diabetic retinal disease. This includes diabetics who had one of the following:</p> <ul style="list-style-type: none"> <li>•Diabetic with a diagnosis of retinopathy that overlaps the measurement period and a retinal or dilated eye exam by an eye care professional in the measurement period</li> <li>•Diabetic with no diagnosis of retinopathy overlapping 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</li> </ul>

<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.11.2 Data Entry

<b>Description:</b>	Percentage of patients 18-75 years of age with diabetes who had a retinal or dilated eye exam by an eye care professional during the measurement period or a negative retinal exam (no evidence of retinopathy) in the 12 months prior to the measurement period.
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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:

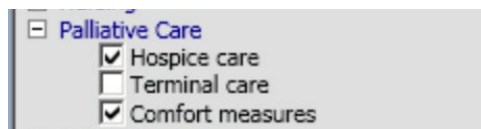


Figure 3-20: Palliative Care list

Include in numerator if any of the following:

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

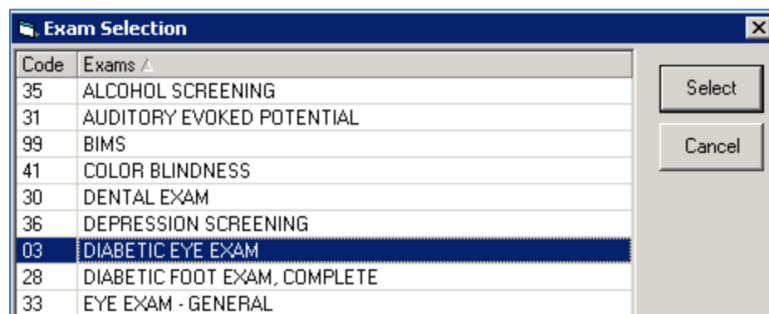


Figure 3-21: Exam Selection dialog

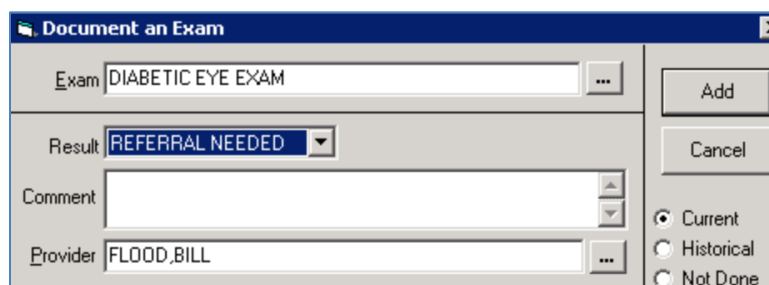


Figure 3-22: Exam Selection dialog

- 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 "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 "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 "ED" (2.16.840.1.113883.3.464.1003.101.12.1085)
- 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 "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)

#### 3.11.4 Data Criteria (QDM Data Elements)

- "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: ED" using "ED (2.16.840.1.113883.3.464.1003.101.12.1085)"
- "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: 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)"
- "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)"
- "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 CMS134V8 Diabetes: Medical Attention for Nephropathy

### 3.12.1 Detail

<b>Description:</b>	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.
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<b>Rationale:</b>	<p>As the seventh leading cause of death in the U.S., diabetes kills approximately 79,500 people a year and affects more than 30 million Americans (9.4 percent of the U.S. population) (CDC, 2017a, 2017b). 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, 2017c). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney failure, amputation of toes, feet or legs, and premature death. (CDC, 2016). 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, 2018a). High blood sugar levels in patients with diabetes put them at a higher risk of damaging their kidneys and causing chronic kidney disease, which can lead to kidney failure (CDC, 2016, 2017d). During 2011-2012 there were 36.5% new cases of chronic kidney disease (stages 1-4) among 297,000 diabetic patients 20 years and older (Murphy et al., 2016). In 2014, diabetes accounted for 44% of 118,000 new cases of end stage renal disease (United States Renal Data System, 2016).</p>
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<p><b>Clinical Recommendation Statement:</b></p>	<p>American Diabetes Association (2018b ): 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 duration of greater than or equal to 5 years in all patients with type 2 diabetes, and in all patients with comorbid hypertension. (Level of evidence: B) Treatment - An angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) is not recommended for the primary prevention of diabetic kidney disease in patients with diabetes who have normal blood pressure, normal UACR (&lt;30 mg/g creatinine), and normal estimated glomerular filtration rate. (Level of evidence: B) - Either an ACE inhibitor or ARB is suggested for the treatment of the nonpregnant patient with modestly elevated UACR (30-299 mg/g creatinine) (Level of evidence: B) and is strongly recommended for those with urinary albumin to creatinine ratio <math>\geq 300</math> mg/g creatinine and/or estimated glomerular filtration rate <math>&lt; 60</math> 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, angiotensin receptor blockers, or diuretics are used. (Level of evidence: B) - Continued monitoring of UACR in patients with albuminuria treated with an ACE inhibitor or ARBs is reasonable to assess the response to treatment and progression of diabetic kidney disease. (Level of evidence: E) - When estimated glomerular filtration rate is <math>&lt;60</math> mL/min/1.73 m2, evaluate and manage potential complications of chronic kidney disease. (Level of evidence: E) -Patients should be referred for evaluation for renal replacement treatment if they have an estimated glomerular filtration rate <math>&lt;30</math> 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: B) American Association of Clinical Endocrinologists &amp; 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).</p>
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<b>Guidance:</b>	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.
<b>Initial Population:</b>	Patients 18-75 years of age with diabetes with a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	Exclude patients whose hospice care overlaps the measurement period. Exclude patients 66 and older who are living long term in an institution for more than 90 days during the measurement period. Exclude patients 66 and older with advanced illness and frailty because it is unlikely that patients will benefit from the services being measured.
<b>Numerator:</b>	Patients with a screening for nephropathy or evidence of nephropathy during the measurement period.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.12.2 Data Entry

<b>Description:</b>	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.
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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:

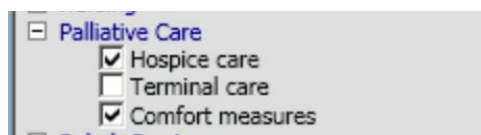


Figure 3-23: Palliative Care list

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 Value Sets

- codesystem "SNOMEDCT" using "2.16.840.1.113883.6.96 version 2017-09"

- code "Discharge to healthcare facility for hospice care (procedure)" using "SNOMEDCT version 2017-09 Code (428371000124100)"
- code "Discharge to home for hospice care (procedure)" using "SNOMEDCT version 2017-09 Code (428361000124107)"
- valueset "ACE Inhibitor or ARB" using "2.16.840.1.113883.3.526.3.1139"
- valueset "Annual Wellness Visit" using "2.16.840.1.113883.3.526.3.1240"
- valueset "Diabetes" using "2.16.840.1.113883.3.464.1003.103.12.1001"
- valueset "Diabetic Nephropathy" using "2.16.840.1.113883.3.464.1003.109.12.1004"
- valueset "Dialysis Education" using "2.16.840.1.113883.3.464.1003.109.12.1016"
- valueset "Dialysis Services" using "2.16.840.1.113883.3.464.1003.109.12.1013"
- valueset "Encounter Inpatient" using "2.16.840.1.113883.3.666.5.307"
- valueset "ESRD Monthly Outpatient Services" using "2.16.840.1.113883.3.464.1003.109.12.1014"
- valueset "Ethnicity" using "2.16.840.1.114222.4.11.837"
- valueset "Glomerulonephritis and Nephrotic Syndrome" using "2.16.840.1.113883.3.464.1003.109.12.1018"
- valueset "Home Healthcare Services" using "2.16.840.1.113883.3.464.1003.101.12.1016"
- valueset "Hospice care ambulatory" using "2.16.840.1.113762.1.4.1108.15"
- valueset "Hypertensive Chronic Kidney Disease" using "2.16.840.1.113883.3.464.1003.109.12.1017"
- valueset "Kidney Failure" using "2.16.840.1.113883.3.464.1003.109.12.1028"
- valueset "Kidney Transplant" using "2.16.840.1.113883.3.464.1003.109.12.1012"
- valueset "Office Visit" using "2.16.840.1.113883.3.464.1003.101.12.1001"
- valueset "ONC Administrative Sex" using "2.16.840.1.113762.1.4.1"
- valueset "Other Services Related to Dialysis" using "2.16.840.1.113883.3.464.1003.109.12.1015"
- valueset "Payer" using "2.16.840.1.114222.4.11.3591"
- valueset "Preventive Care Services - Established Office Visit, 18 and Up" using "2.16.840.1.113883.3.464.1003.101.12.1025"
- valueset "Preventive Care Services-Initial Office Visit, 18 and Up" using "2.16.840.1.113883.3.464.1003.101.12.1023"
- valueset "Proteinuria" using "2.16.840.1.113883.3.526.3.1003"

- valueset "Race" using "2.16.840.1.114222.4.11.836"
- valueset "Urine Protein Tests" using "2.16.840.1.113883.3.464.1003.109.12.1024"
- valueset "Vascular Access for Dialysis" using "2.16.840.1.113883.3.464.1003.109.12.1011"
- "Diagnosis: Diabetes" using (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: Diabetic Nephropathy" using "Di (2.16.840.1.113883.3.464.1003.109.12.1004)"
- "Diagnosis: Glomerulonephritis and Nephrotic Syndrome" using (2.16.840.1.113883.3.464.1003.109.12.1018)"
- Hypertensive Chronic Kidney Disease (2.16.840.1.113883.3.464.1003.109.12.1017)"
- "Diagnosis: Kidney Failure" using (2.16.840.1.113883.3.464.1003.109.12.1028)"
- "Diagnosis: Proteinuria" using " (2.16.840.1.113883.3.526.3.1003)"
- "Encounter, Performed: Annual Wellness Visit" using " (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Encounter Inpatient" using " (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: ESRD Monthly Outpatient Services" using (2.16.840.1.113883.3.464.1003.109.12.1014)"
- "Encounter, Performed: Home Healthcare Services" using (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office Visit" using (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Care Services in Long-Term Residential Facility: (2.16.840.1.113883.3.464.1003.101.12.1014)
- "Encounter, Performed: Nursing Facility Visit: (2.16.840.1.113883.3.464.1003.101.12.1012)
- "Intervention, Order: Hospice care ambulatory" using (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Dialysis Education" using (2.16.840.1.113883.3.464.1003.109.12.1016)"



- "Intervention, Performed: Hospice care ambulatory" using (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Other Services Related to Dialysis" using (2.16.840.1.113883.3.464.1003.109.12.1015)"
- "Laboratory Test, Performed: Urine Protein Tests" using (2.16.840.1.113883.3.464.1003.109.12.1024)"
- "Medication, Active: ACE Inhibitor or ARB" using (2.16.840.1.113883.3.526.3.1139)"
- "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)"
- "Procedure, Performed: Dialysis Services" using (2.16.840.1.113883.3.464.1003.109.12.1013)"
- "Procedure, Performed: Kidney Transplant" using (2.16.840.1.113883.3.464.1003.109.12.1012)"
- "Procedure, Performed: Vascular Access for Dialysis" using (2.16.840.1.113883.3.464.1003.109.12.1011)"

### 3.13 CMS137V9 Initiation and Engagement of Alcohol and Other Drug Dependence Treatment

#### 3.13.1 Detail

<b>Description:</b>	<p>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.</p> <p>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</p> <p>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</p>
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<b>Stratification:</b>	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 $\geq 18$ at the end of the measurement period.
<b>Rationale:</b>	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 $\geq 18$ at the end of the measurement period.

<p><b>Clinical Recommendation Statement:</b></p>	<p>American Psychiatric Association (2018)</p> <ul style="list-style-type: none"> <li>* Patients with alcohol use disorder should have a documented comprehensive and person-centered treatment plan that includes evidence-based nonpharmacological and pharmacological treatments. [1C]</li> <li>* 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]</li> <li>* 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]</li> <li>* 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]</li> </ul> <p>American Psychiatric Association (2006)</p> <ul style="list-style-type: none"> <li>* 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].</li> <li>* 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].</li> <li>* 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].</li> <li>* Disulfiram is also recommended for patients with alcohol dependence [II rating].</li> <li>* Naltrexone, injectable naltrexone, acamprosate, a <math>\gamma</math>-aminobutyric acid (GABA) are recommended for patients with alcohol dependence [I rating]. Disulfiram is also recommended for patients with alcohol dependence [II rating].</li> <li>* Methadone and buprenorphine are recommended for patients with opioid dependence [I rating].</li> <li>* Naltrexone is an alternative strategy [I rating].</li> </ul> <p>American Society of Addiction Medicine (2015)</p> <ul style="list-style-type: none"> <li>* Methadone and buprenorphine are recommended for opioid use disorder treatment and withdrawal management.</li> </ul>
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<p><b>Clinical Recommendation Statement: (cont.)</b></p>	<p>* Naltrexone (oral; extended-release injectable) is recommended for relapse prevention.</p> <p>Michigan Quality Improvement Consortium (2017)</p> <p>*Patients with substance use disorder or risky substance use: Patient Education and Brief Intervention by PCP or Trained Staff (e.g. RN, MSW)</p> <p>*If diagnosed with substance use disorder or risky substance use, initiate an intervention within 14 days.</p> <p>*Frequent follow-up is helpful to support behavior change; preferably 2 visits within 30 days.</p> <p>*Refer to a substance abuse health specialist, an addiction physician specialist, or a physician experienced in pharmacologic management of addiction.</p> <p>Department of Veterans Affairs/Department of Defense (2015)</p> <p>* Offer referral to specialty SUD care for addiction treatment if based on willingness to engage. [B]</p> <p>* For patients with moderate-severe alcohol use disorder, we recommend: Acamprosate, Disulfiram, Naltrexone- oral or extended release, or Topiramate. [A]</p> <p>* 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]</p> <p>* 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]</p> <p>* 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].</p>
<p><b>Definition:</b></p>	<p>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.</p> <p>Treatment includes inpatient AOD admissions, outpatient visits, intensive outpatient encounters or partial hospitalization.</p> <p>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.</p>
<p><b>Guidance:</b></p>	<p>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.</p>

<b>Initial Population:</b>	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.
<b>Denominator:</b>	Equals Initial Population..
<b>Denominator Exclusions:</b>	Patients with a previous active diagnosis of alcohol, opioid, or other drug abuse or dependence in the 60 days prior to the first episode of alcohol or drug dependence.
<b>Numerator:</b>	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 includes 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 (i.e., engagement for these members cannot be satisfied with medication treatment alone).
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measures also identify payer, race, ethnicity, and sex.

### 3.13.2 Data Entry

<b>Description:</b>	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.
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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:

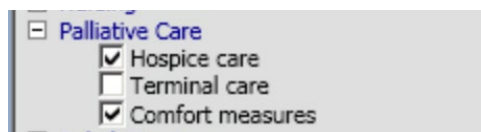


Figure 3-24: Palliative Care list

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.

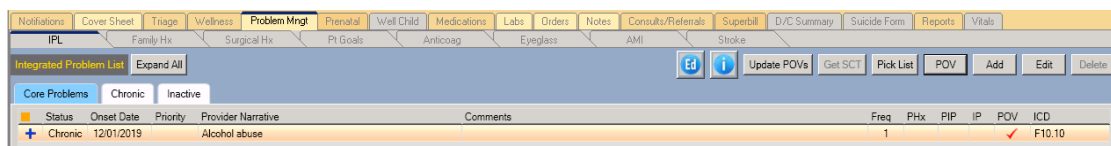


Figure 3-25: Problem Management tab

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):

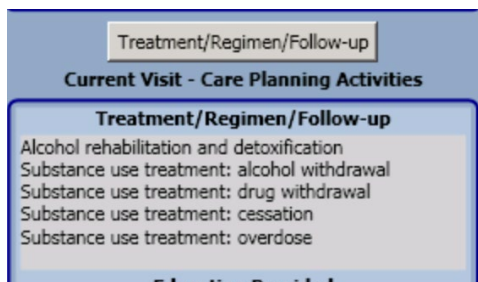


Figure 3-26: Care Planning Activities

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 "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 "Telehealth Services" (2.16.840.1.113883.3.464.1003.101.12.1031)

### 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: Telehealth Services" using "Telehealth Services (2.16.840.1.113883.3.464.1003.101.12.1031)"
- "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 CMS138V9 Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention

#### 3.14.1 Detail

<b>Description:</b>	<p>Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 12 months AND who received tobacco cessation intervention if identified as a tobacco user</p> <p>Three rates are reported:</p> <ul style="list-style-type: none"> <li>a. Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 12 months</li> <li>b. Percentage of patients aged 18 years and older who were identified as a tobacco user who received tobacco cessation intervention</li> <li>c. Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 12 months AND who received tobacco cessation intervention if identified as a tobacco user</li> </ul>
<b>Rationale:</b>	<p>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.</p>
<b>Clinical Recommendation Statement:</b>	<p>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).</p> <p>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).</p> <p>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).</p>
<b>Improvement Notation:</b>	<p>Higher score indicates better quality.</p>

<b>Definition:</b>	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).
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<p><b>Guidance:</b></p>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
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<b>Guidance: (cont.)</b>	<p>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.</p> <p>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.</p>
<b>Initial Population:</b>	All patients aged 18 years and older seen for at least two visits or at least one preventive visit during the measurement period
<b>Denominator:</b>	<p>Population 1: Equals Initial Population.</p> <p>Population 2: Equals Initial Population who were screened for tobacco use and identified as a tobacco user.</p> <p>Population 3: Equals Initial Population.</p>
<b>Denominator Exclusions:</b>	None
<b>Numerator:</b>	<p>Population 1: Patients who were screened for tobacco use at least once within 12 months</p> <p>Population 2: Patients who received tobacco cessation intervention</p> <p>Population 3: Patients who were screened for tobacco use at least once within 12 months AND who received tobacco cessation intervention if identified as a tobacco user</p>
<b>Numerator Exclusions:</b>	Not Applicable.

<b>Denominator Exceptions:</b>	<p>Population 1: Documentation of medical reason(s) for not screening for tobacco use (e.g., limited life expectancy, other medical reason)</p> <p>Population 2: Documentation of medical reason(s) for not providing tobacco cessation intervention (e.g., limited life expectancy, other medical reason)</p> <p>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)</p>
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.14.2 Data Entry

<b>Description:</b>	<p>Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received tobacco cessation intervention if identified as a tobacco user.</p> <p>Three rates are reported:</p> <ul style="list-style-type: none"> <li>• Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months.</li> <li>• 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.</li> <li>• Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months. AND who received tobacco cessation intervention if identified as a tobacco user.</li> </ul>
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There are 3 rates:

Multiple codes accepted for encounter type

Annual Wellness visit (Value Set 2.16.840.1.113883.3.526.3.1240).

Health & Behavioral Assessment, Reassessment  
(Value Set 2.16.840.1.113883.3.526.3.1245).

Home Healthcare Services (Value Set 2.16.840.1.113883.3.464.1003.101.12.1016).

Occupational Therapy Evaluation (Value Set 2.16.840.1.113883.3.526.3.1011).

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, ...).

Preventive Care Services-Individual Counseling  
(2.16.840.1.113883.3.464.1003.101.12.1026).

Preventive Care Services - Group Counseling  
(2.16.840.1.113883.3.464.1003.101.12.1027).

Preventive Care Services - Other (2.16.840.1.113883.3.464.1003.101.12.1030).

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).

Speech and Hearing Evaluation (Value Set 2.16.840.1.113883.3.526.3.1530).

See Appendix A for information about using Value Sets.

Document smoking status in Health Factors:

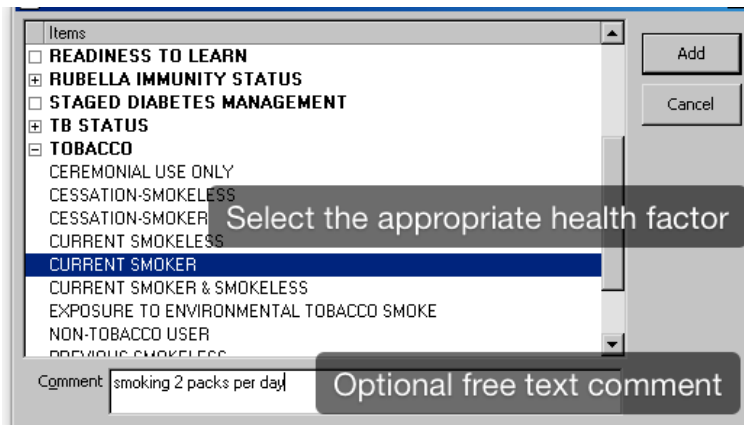


Figure 3-27: Add Health Factors

Document intervention if identified as a tobacco user:

Counseling using Patient Ed (TO-QT):

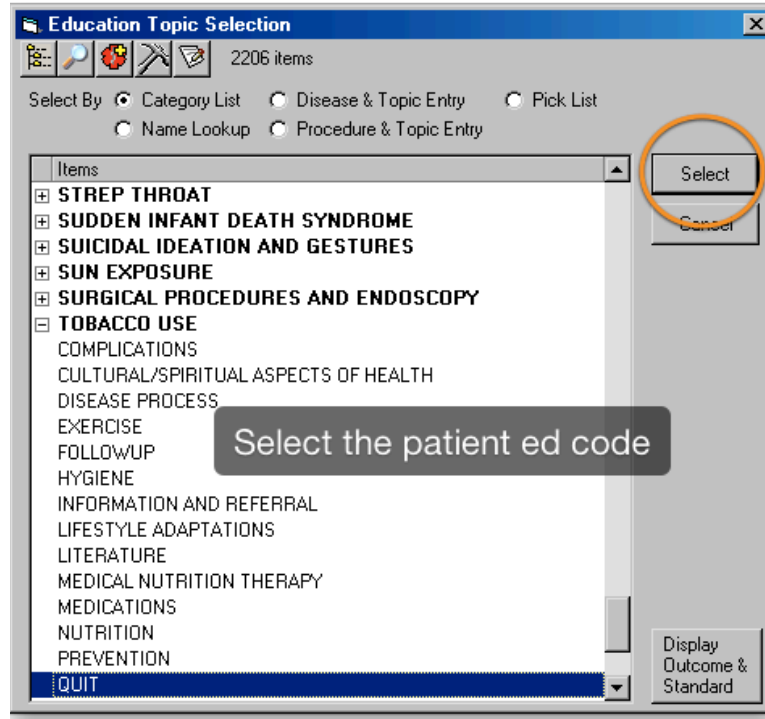


Figure 3-28: Education Topic Selection dialog

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

<b>Medications to treat tobacco use disorder</b>		
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	use 2mg
	if > 24 cigarettes/d	use 4mg
	Start every 1-2 hours	weeks 1-6
	Decrease to every 2-4 hours	weeks 7-9
	Decrease to every 4-8 hours	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	
Varenicline	0.5mg daily x 3 days, BID x 4 days then 1mg BID x 11 days (may extend 12 weeks)	

Figure 3-29: Medications to treat tobacco use disorder

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



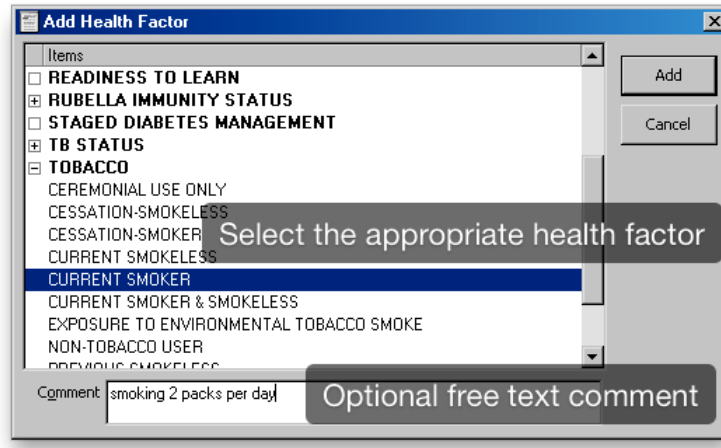


Figure 3-30: Add Health Factor dialog

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 nor performed for medical reason.
  - 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 (i.e., 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 "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 "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 (i.e., health-focused clinical interview, behavioral observations, clinical decision making)" using "Health behavior assessment, or re-assessment (i.e., 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: 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)"
- "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 CMS139V9 Falls: Screening for Future Fall Risk

### 3.15.1 Detail

<b>Description:</b>	Percentage of patients 65 years of age and older who were screened for future fall risk during the measurement period.
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<b>Rationale:</b>	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).
<b>Clinical Recommendation Statement:</b>	All older persons who are under the care of a health 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)
<b>Definition:</b>	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.
<b>Guidance</b>	None
<b>Initial Population:</b>	Patients aged 65 years and older with a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	Exclude patients whose hospice care overlaps the measurement period.
<b>Numerator:</b>	Patients who were screened for future fall risk at least once within the measurement period
<b>Numerator Exclusions:</b>	Not Applicable

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

### 3.15.2 Data Entry

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

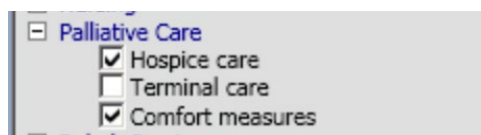


Figure 3-31: Palliative Care list

- 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 "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)

### 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: 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)"
- "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 CMS144V9 Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

#### 3.16.1 Detail

<b>Description:</b>	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.
<b>Rate Aggregation:</b>	<p>This measure is intended to have one reporting rate, which aggregates the following populations into a single performance rate for reporting purposes:</p> <ul style="list-style-type: none"> <li>- Population 1: Patients who were prescribed beta-blocker therapy within a 12-month period when seen in the outpatient setting</li> <li>- Population 2: Patients who were prescribed beta-blocker therapy at each hospital discharge</li> </ul> <p>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)]</p>
<b>Rationale:</b>	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.

<p><b>Clinical Recommendation Statement:</b></p>	<p>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).</p> <p>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).</p> <p>Drugs Commonly Used for Stage C HFrEF (abbreviated to align with focus of measure to include only Beta-blocker therapy)</p> <table border="1"> <thead> <tr> <th>Drug</th> <th>Initial Daily Dose(s)</th> <th>Maximum Dose(s)</th> </tr> <tr> <th colspan="3">Mean Doses Achieved in Clinical Trials</th> </tr> </thead> <tbody> <tr> <td colspan="3">Beta Blockers</td> </tr> <tr> <td>Bisoprolol</td> <td>1.25 mg once</td> <td>10 mg once</td> </tr> <tr> <td>8.6 mg/d</td> <td></td> <td></td> </tr> <tr> <td>Carvedilol</td> <td>3.125 mg twice</td> <td>50 mg twice</td> </tr> <tr> <td>37 mg/d</td> <td></td> <td></td> </tr> <tr> <td>Carvedilol CR</td> <td>10 mg once</td> <td>80 mg once</td> </tr> <tr> <td>N/A</td> <td></td> <td></td> </tr> <tr> <td>Metoprolol succinate</td> <td>12.5 to 25 mg once</td> <td>200 mg once</td> </tr> <tr> <td>159 mg/d</td> <td></td> <td></td> </tr> <tr> <td>extended release (metoprolol CR/XL)</td> <td></td> <td></td> </tr> </tbody> </table> <p>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).</p> <p>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).</p>	Drug	Initial Daily Dose(s)	Maximum Dose(s)	Mean Doses Achieved in Clinical Trials			Beta Blockers			Bisoprolol	1.25 mg once	10 mg once	8.6 mg/d			Carvedilol	3.125 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)		
Drug	Initial Daily Dose(s)	Maximum Dose(s)																																			
Mean Doses Achieved in Clinical Trials																																					
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159 mg/d																																					
extended release (metoprolol CR/XL)																																					

<b>Definition</b>	<p>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.</p> <p>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.</p> <p>LVEF &lt; 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction.</p>
<b>Guidance</b>	<p>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.</p> <p>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.</p> <p>Beta-blocker therapy: -For patients with prior LVEF &lt; 40%, beta-blocker therapy should include bisoprolol, carvedilol, or sustained release metoprolol succinate.</p> <p>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.</p>
<b>Initial Population:</b>	All patients aged 18 years and older with a diagnosis of heart failure.
<b>Denominator:</b>	Equals Initial Population with a current or prior LVEF < 40%.
<b>Denominator Exclusions:</b>	None.
<b>Numerator:</b>	Patients who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	<p>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).</p> <p>Documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons).</p> <p>Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the healthcare system).</p>
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.16.2 Data Entry

<b>Description:</b>	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.
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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 "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 "Left Ventricular Systolic Dysfunction" (2.16.840.1.113883.3.526.3.1091)
- 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" using "Left Ventricular Systolic Dysfunction (2.16.840.1.113883.3.526.3.1091)"
- "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 CMS147v10 Preventive Care and Screening: Influenza Immunization

### 3.17.1 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

<b>Description</b>	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
<b>Rationale</b>	Influenza vaccination is the most effective protection against influenza virus infection (Centers for Disease Control and Prevention [CDC], 2018). Influenza may lead to serious complications including hospitalization or death (CDC, 2018). Influenza vaccine is recommended for all persons aged $\geq 6$ months who do not have contraindications to vaccination. However, data indicate that less than half of all eligible individuals receive an influenza vaccination (CDC, 2015). This measure promotes annual influenza vaccination for all persons aged $\geq 6$ months.

<b>Clinical Recommendation Statement</b>	Routine annual influenza vaccination is recommended for all persons aged $\geq 6$ 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], 2019).
<b>Definition</b>	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 1 <sup>st</sup> )
<b>Guidance</b>	<p>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.</p> <p>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.</p> <p>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).</p> <p>This eCQM is a patient-based measure.</p>
<b>Initial Population</b>	All patients aged 6 months and older seen for a visit during the measurement period

<b>Denominator</b>	Equals Initial Population and seen for a visit between October 1 and March 31
<b>Denominator Exclusions</b>	None
<b>Numerator</b>	Patients who received an influenza immunization OR who reported previous receipt of an influenza immunization
<b>Numerator Exclusions</b>	Not Applicable
<b>Denominator Exceptions</b>	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).
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex

### 3.17.2 Data Entry

<b>Description</b>	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
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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 3-32: 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 3-33: 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:

The screenshot shows a form for documenting a vaccine. The vaccine name is 'INFLUENZA [TIV], SEASONAL, INJ'. The provider is 'FLOOD, WILLIAM'. The 'Reason' dropdown menu is open, showing a list of reasons. 'Considered and not done' is selected in the dropdown. On the right side, there are radio buttons for 'Current', 'Historical', and 'Not Done'. The 'Not Done' radio button is selected and circled in red.

Figure 3-34: Documented as Not Done

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

### 3.17.3 Terminology

- code "Birth date" ("LOINC Code (21112-8)")
- 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 "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 "Previous Receipt of Influenza Vaccine" (2.16.840.1.113883.3.526.3.1185)
- 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: 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)"
- "Assessment, Performed: Previous Receipt of Influenza Vaccine" using "Previous Receipt of Influenza Vaccine (2.16.840.1.113883.3.526.3.1185)"
- "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 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)"
- "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)"
- "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)"

### 3.18 CMS155V9 Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents

#### 3.18.1 Detail

<b>Description:</b>	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. <ul style="list-style-type: none"> <li>• Percentage of patients with height, weight, and BMI percentile documentation</li> <li>• Percentage of patients with counseling for nutrition</li> <li>• Percentage of patients with counseling for physical activity.</li> </ul>
<b>Stratification:</b>	Report a total score, and each of the following strata: <ul style="list-style-type: none"> <li>• Stratum 1 - Patients age 3-11.</li> <li>• Stratum 2 - Patients age 12-17.</li> </ul>

<b>Rationale:</b>	<p>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, &amp; 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).</p> <p>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).</p> <p>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, &amp; Malhotra, 2014).</p> <p>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).</p>
<b>Clinical Recommendation Statement:</b>	<p>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)</p> <p>American Academy of Pediatrics – Bright Futures (Hagan, Shaw, &amp; Duncan, 2017)</p> <ul style="list-style-type: none"> <li>- Plot and assess BMI percentiles routinely for early recognition of overweight and obesity.</li> <li>- Assess barriers to healthy eating and physical activity.</li> <li>- Provide anticipatory guidance for nutrition and physical activity.</li> </ul>
<b>Guidance:</b>	<p>The visit must be performed by a PCP or OB/GYN.</p> <p>Because BMI norms for youth vary with age and sex, this measure evaluates whether BMI percentile, rather than an absolute BMI value, is assessed.</p>
<b>Initial Population:</b>	<p>Patients 3-17 years of age with at least one outpatient visit with a PCP or an OB/GYN during the measurement period.</p>
<b>Denominator:</b>	<p>Equals Initial Population.</p>
<b>Denominator Exclusions:</b>	<p>Patients who have a diagnosis of pregnancy during the measurement period.</p> <p>Exclude patients whose hospice care overlaps the measurement period.</p>

<b>Numerator:</b>	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.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.18.2 Data Entry

<b>Description:</b>	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: <ul style="list-style-type: none"> <li>• Percentage of patients with height, weight, and BMI percentile documentation.</li> <li>• Percentage of patients with counselling for nutrition.</li> <li>• Percentage of patients with counselling for physical activity.</li> </ul>
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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:

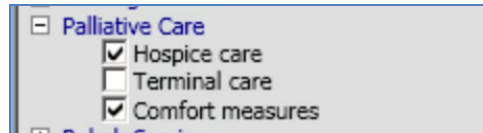


Figure 3-35: Palliative Care list

- 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).

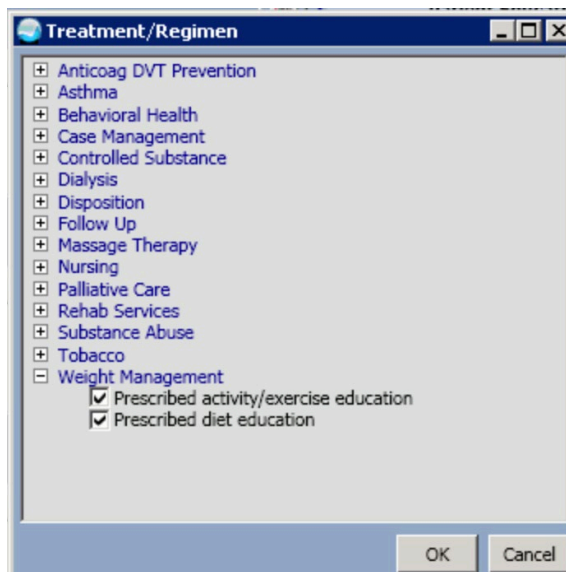


Figure 3-36: Treatment/Regimen dialog

- 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.

### 3.18.3 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 "Weight" (2.16.840.1.113883.3.464.1003.121.12.1015)

### 3.18.4 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)"
- "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)"

### 3.19 CMS156V9 Use of High-Risk Medications in Older Adults

#### 3.19.1 Detail

<b>Description:</b>	Percentage of patients 65 years of age and older who were ordered at least two of the same high-risk medications.
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<b>Rationale:</b>	<p>Certain medications (MacKinnon &amp; 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, &amp; 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).</p> <p>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, &amp; 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 &amp; Hepler, 2003).</p> <p>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 &amp; Gardner, 2009).</p>
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<b>Clinical Recommendation Statement:</b>	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.
<b>Definition:</b>	A high-risk medication is identified by either of the following: <ul style="list-style-type: none"> <li>• A prescription for medications classified as high risk at any dose and for any duration.</li> <li>• Prescriptions for medications classified as high risk at any dose with greater than a 90-day supply.</li> </ul>
<b>Guidance:</b>	The intent of the measure is to assess if the patient has been prescribed at least two of the same high-risk medications 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.
<b>Initial Population:</b>	Patients 65 years and older who had a visit during the measurement period.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	Exclude patients whose hospice care overlaps the measurement period.
<b>Numerator:</b>	Numerator 1: Patients with an order for at least one high-risk medication during the measurement period Numerator 2: Patients with at least two orders for the same high-risk medication on different days during the measurement period
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.19.2 Data Entry

<b>Description:</b>	<p>Percentage of patients 65 years of age and older who were ordered high-risk medications. Two rates are reported.</p> <ul style="list-style-type: none"> <li>Percentage of patients who were ordered at least one high-risk medication.</li> <li>Percentage of patients who were ordered at least two of the same high-risk medications.</li> </ul>
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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:

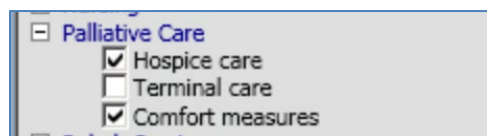


Figure 3-37: Palliative Care list

- 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).

### 3.19.3 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)")
- valueset "Amitriptyline Hydrochloride" (2.16.840.1.113883.3.464.1003.196.12.1373)
- valueset "Amobarbital" (2.16.840.1.113883.3.464.1003.196.12.1512)
- 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 "Atropine" (2.16.840.1.113883.3.464.1003.196.12.1274)
- valueset "Benztropine" (2.16.840.1.113883.3.464.1003.196.12.1361)
- 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 "Diphenhydramine Hydrochloride"  
(2.16.840.1.113883.3.464.1003.196.12.1371)
- 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 "Ergoloid Mesylates" (2.16.840.1.113883.3.464.1003.196.12.1516)
- 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 "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 "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 "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 "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 "Race" (2.16.840.1.114222.4.11.836)
- 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 "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)

### 3.19.4 Data Criteria (QDM Data Elements)

- "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 Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Ophthalmologic Services" using "Ophthalmologic Services (2.16.840.1.113883.3.464.1003.101.11.1206)"
- "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)"
- "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)"
- "Medication, Order: Amitriptyline Hydrochloride" using "Amitriptyline Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1373)"
- "Medication, Order: Amobarbital" using "Amobarbital (2.16.840.1.113883.3.464.1003.196.12.1512)"
- "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: Atropine" using "Atropine (2.16.840.1.113883.3.464.1003.196.12.1274)"
- "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: Diphenhydramine Hydrochloride" using "Diphenhydramine Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1371)"
- "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: Ergoloid Mesylates" using "Ergoloid Mesylates (2.16.840.1.113883.3.464.1003.196.12.1516)"
- "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: 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: 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)"

## 3.20 CMS159V9 Depression Remission at Twelve Months

### 3.20.1 Detail

<b>Description:</b>	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.
<b>Stratification:</b>	Ages 12 to 17 at time of index assessment. Ages 18 and older at time of index assessment.

<b>Rationale:</b>	<p><b>Adults:</b>  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)</p> <p><b>Adolescents and Adults:</b>  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.</p> <p><b>Adolescents:</b>  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 <math>P &lt; .001</math>). 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</p>
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<b>Rationale: (cont.)</b>	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.
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<p><b>Clinical Recommendation Statement:</b></p>	<p>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</p>
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<p><b>Clinical Recommendation Statement: (cont.)</b></p>	<ul style="list-style-type: none"> <li>- 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.</li> <li>- Increase the percentage of patients with major depression or persistent depressive disorder who have follow-up to assess for outcomes from treatment.</li> <li>- Improve communication between the primary care physician and the mental health care clinician (if patient is co-managed).</li> </ul> <p>Adolescents:  Source: American Academy of Child and Adolescent Psychiatry Practice Parameter for the Assessment and Treatment of Children and Adolescents with Depressive Disorders (2007)  <a href="http://www.jaacap.com/article/S0890-8567(09)62053-0/pdf">http://www.jaacap.com/article/S0890-8567(09)62053-0/pdf</a></p> <p>Recommendations:  Recommendations supporting depression outcomes and duration of treatment according to AACAP guideline:</p> <ul style="list-style-type: none"> <li>- 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).</li> <li>- Each phase of treatment should include psychoeducation, supportive management, and family and school involvement.</li> <li>- 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.</li> <li>- 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.</li> </ul> <p>Sources:  Guidelines for Adolescent Depression in Primary Care (GLAD-PC) (2018)  <a href="http://pediatrics.aappublications.org/content/141/3/e20174081">http://pediatrics.aappublications.org/content/141/3/e20174081</a>  Guidelines for adolescent depression in primary care (GLAD-PC): II. Treatment and ongoing management  <a href="http://pediatrics.aappublications.org/content/141/3/e20174082">http://pediatrics.aappublications.org/content/141/3/e20174082</a></p> <p>Recommendations supporting depression outcomes and duration of treatment according to GLAD-PC:  Recommendations for Ongoing Management of Depression:</p> <ul style="list-style-type: none"> <li>- Mild depression: consider a period of active support and monitoring before starting other evidence-based treatment</li> <li>- Moderate or severe major clinical depression or complicating factors: <ul style="list-style-type: none"> <li>-- consultation with mental health specialist with agreed upon roles</li> <li>-- evidence based treatment (CBT or IPT and/or antidepressant SSRI)</li> </ul> </li> <li>- Monitor for adverse effects during antidepressant therapy <ul style="list-style-type: none"> <li>-- clinical worsening, suicidality, unusual changes in behavior</li> </ul> </li> <li>- Systematic and regular tracking of goals and outcomes</li> </ul>
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<b>Clinical Recommendation Statement: (cont.)</b>	-- 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
<b>Definition:</b>	<p><b>Denominator Identification Period:</b> 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.</p> <p><b>Index Event Date:</b> 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).</p> <p><b>Measure Assessment Period:</b> 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.</p> <p>Remission is defined as a PHQ-9 or PHQ-9M score of less than five.</p> <p>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).</p>
<b>Guidance</b>	When a baseline assessment is conducted with PHQ 9M, the follow-up assessment can use either a PHQ 9M or PHQ 9.
<b>Initial Population:</b>	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 screened using PHQ-9 and PHQ-9M up to 7 days prior to the office visit (including the day of the office visit).
<b>Denominator:</b>	Equals Initial Population



<b>Denominator Exclusions:</b>	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
<b>Numerator:</b>	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
<b>Numerator Exclusions:</b>	Not Applicable
<b>Denominator Exceptions:</b>	None
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.20.2 Data Entry

<b>Description:</b>	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.
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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+.

### 3.20.3 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 "Amitriptyline Hydrochloride"  
(2.16.840.1.113883.3.464.1003.196.12.1373)
- valueset "Amobarbital" (2.16.840.1.113883.3.464.1003.196.12.1512)
- 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 "Atropine" (2.16.840.1.113883.3.464.1003.196.12.1274)
- valueset "Benztropine" (2.16.840.1.113883.3.464.1003.196.12.1361)
- 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 "Diphenhydramine Hydrochloride"  
(2.16.840.1.113883.3.464.1003.196.12.1371)
- 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 "Ergoloid Mesylates" (2.16.840.1.113883.3.464.1003.196.12.1516)
- 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 "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 "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 "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 "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 "Race" (2.16.840.1.114222.4.11.836)
- 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 "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)

### 3.20.4 Data Criteria (QDM Data Elements)

- "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 Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Ophthalmologic Services" using "Ophthalmologic Services (2.16.840.1.113883.3.464.1003.101.11.1206)"
- "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)"
- "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)"
- "Medication, Order: Amitriptyline Hydrochloride" using "Amitriptyline Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1373)"
- "Medication, Order: Amobarbital" using "Amobarbital (2.16.840.1.113883.3.464.1003.196.12.1512)"
- "Medication, Order: Amoxapine" using "Amoxapine (2.16.840.1.113883.3.464.1003.196.12.1273)"
- "Medication, Order: Anti Infectionives, other" using "Anti Infectionives, other (2.16.840.1.113883.3.464.1003.196.12.1481)"
- "Medication, Order: Atropine" using "Atropine (2.16.840.1.113883.3.464.1003.196.12.1274)"
- "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: Diphenhydramine Hydrochloride" using "Diphenhydramine Hydrochloride (2.16.840.1.113883.3.464.1003.196.12.1371)"
- "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: Ergoloid Mesylates" using "Ergoloid Mesylates (2.16.840.1.113883.3.464.1003.196.12.1516)"
- "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: Methyl dopa" using "Methyl dopa (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: 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)"

## 3.21 CMS160V7 Depression Utilization of the PHQ-9 Tool

### 3.21.1 Detail

<b>Description:</b>	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.
<b>Stratification:</b>	<ul style="list-style-type: none"> <li>• Ages 12 to 17.</li> <li>• Ages 18 and older.</li> </ul>

<p><b>Rationale:</b></p>	<p><b>Adolescents:</b></p> <p>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 <math>P &lt; .001</math>). 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.</p> <p>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 <math>&lt; 5</math>) and depression response (PHQ-9/PHQ-9M is improved by <math>&gt; 50\%</math>) 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).</p>
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<p><b>Clinical Recommendation Statement:</b></p>	<p>Adults:</p> <p>Source: ICSI Health Care Guideline for Adult Depression in Primary Care (Trangle, 2016).</p> <p>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).</p> <p>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).</p> <p>Recommendations and algorithm notations supporting depression assessment and monitoring of depression outcomes according to ICSI's Health Care Guideline:</p> <p>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.</p> <p>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</p> <p>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).</p>
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<p><b>Clinical Recommendation Statement (cont.):</b></p>	<p>Adolescents:  Source: American Academy of Child and Adolescent Psychiatry Practice Parameter for the Assessment and Treatment of Children and Adolescents with Depressive Disorders (2007)  <a href="http://www.jaacap.com/article/S0890-8567(09)62053-0/pdf">http://www.jaacap.com/article/S0890-8567(09)62053-0/pdf</a>  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 &lt;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)  <a href="http://pediatrics.aappublications.org/content/141/3/e20174081">http://pediatrics.aappublications.org/content/141/3/e20174081</a>  Guidelines for adolescent depression in primary care (GLAD-PC): II. Treatment and ongoing management  <a href="http://pediatrics.aappublications.org/content/141/3/e20174082">http://pediatrics.aappublications.org/content/141/3/e20174082</a>  Recommendations supporting depression outcomes and duration of treatment according to GLAD-PC:</p>
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<b>Clinical Recommendation Statement (cont.):</b>	<p>Recommendations for Ongoing Management of Depression:</p> <p>Mild depression: consider a period of active support and monitoring before starting other evidence-based treatment</p> <p>Moderate or severe major clinical depression or complicating factors:</p> <p>Consultation with mental health specialist with agreed upon roles.</p> <p>Evidence based treatment (CBT or IPT and/or antidepressant SSRI)</p> <p>Monitor for adverse effects during antidepressant therapy -- clinical worsening, suicidality, unusual changes in behavior</p> <p>Systematic and regular tracking of goals and outcomes -- improvement in functioning status and resolution of depressive symptoms.</p> <p>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.</p>
<b>Definition:</b>	Completed PHQ-9 or PHQ-9M - The patient must answer ALL nine questions for the score to be valid.
<b>Guidance:</b>	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.
<b>Initial Population:</b>	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.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	<p>Patients who died.</p> <p>Patients who received hospice or palliative care services.</p> <p>Patients who were permanent nursing home residents.</p> <p>Patients with a diagnosis of bipolar disorder.</p> <p>Patients with a diagnosis of personality disorder.</p> <p>Patients with a diagnosis of schizophrenia or psychotic disorder.</p> <p>Patients with a diagnosis of pervasive developmental disorder.</p>
<b>Numerator:</b>	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.
<b>Numerator Exclusions:</b>	Not applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.21.2 Data Entry

<b>Description:</b>	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
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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: 2.16.840.1.113883.3.67.1.101.3.2444).
- 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.

### 3.21.3 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)"

## 3.22 CMS161V9 Adult Major Depressive Disorder: Suicide Risk Assessment

### 3.22.1 Detail

<b>Description:</b>	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
<b>Rationale:</b>	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 is identified. In an epidemiologic study (2010) 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 major depressive disorder. When considering other mood disorders related to depression, such as dysthymia and bipolar disorders, this rate increases to 74% (Bolton & Robinson, 2010). In a 2014 study conducted by Ahmedani et al., 50% of individuals who completed a suicide had been seen in a health care setting within four weeks prior. 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.

<p><b>Clinical Recommendation Statement:</b></p>	<p>A careful and ongoing evaluation of suicide risk is necessary for all patients with major depressive disorder [I] (American Psychiatric Association, 2010a, reaffirmed 2015).</p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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):</p> <p>Admission generally indicated</p> <p>After a suicide attempt or aborted suicide attempt if:</p> <ul style="list-style-type: none"> <li>* Patient is psychotic</li> <li>* Attempt was violent, near-lethal, or premeditated</li> <li>* Precautions were taken to avoid rescue or discovery</li> <li>* Persistent plan and/or intent is present</li> <li>* Distress is increased or patient regrets surviving</li> <li>* Patient is male, older than age 45 years, especially with new onset of psychiatric illness or suicidal thinking</li> <li>* Patient has limited family and/or social support, including lack of stable living situation</li> <li>* Current impulsive behavior, severe agitation, poor judgment, or refusal of help is evident</li> <li>* Patient has change in mental status with a metabolic, toxic, infectious, or other etiology requiring further workup in a structured setting</li> </ul> <p>In the presence of suicidal ideation with:</p> <ul style="list-style-type: none"> <li>* Specific plan with high lethality</li> <li>* High suicidal intent</li> </ul> <p>Admission may be necessary</p> <p>After a suicide attempt or aborted suicide attempt, except in circumstances for which admission is generally indicated</p> <p>In the presence of suicidal ideation with:</p>
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<p><b>Clinical Recommendation Statement: (cont.)</b></p>	<ul style="list-style-type: none"> <li>* Psychosis</li> <li>* Major psychiatric disorder</li> <li>* Past attempts, particularly if medically serious</li> <li>* Possibly contributing medical condition (e.g., acute neurological disorder, cancer, infection)</li> <li>* Lack of response to or inability to cooperate with partial hospital or outpatient treatment</li> <li>* Need for supervised setting for medication trial or ECT</li> <li>* Need for skilled observation, clinical tests, or diagnostic assessments that require a structured setting</li> <li>* Limited family and/or social support, including lack of stable living situation</li> <li>* Lack of an ongoing clinician-patient relationship or lack of access to timely outpatient follow-up</li> <li>* Evidence of putting one's affairs in order (e.g., giving away possessions, writing a will)</li> </ul> <p>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</p> <p>Release from emergency department with follow-up recommendations may be possible</p> <p>After a suicide attempt or in the presence of suicidal ideation/plan when:</p> <ul style="list-style-type: none"> <li>* 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</li> <li>* Plan/method and intent have low lethality</li> <li>* Patient has stable and supportive living situation</li> <li>* Patient is able to cooperate with recommendations for follow-up, with treater contacted, if possible, if patient is currently in treatment</li> </ul> <p>Outpatient treatment may be more beneficial than hospitalization</p> <p>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.</p>
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<b>Definition:</b>	<p>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:</p> <ol style="list-style-type: none"><li>1) Suicidal ideation</li><li>2) Patient's intent of initiating a suicide attempt</li></ol> <p>AND, if either is present,</p> <ol style="list-style-type: none"><li>3) Patient plans for a suicide attempt</li><li>4) Whether the patient has means for completing suicide</li></ol> <p>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.</p>
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<p><b>Guidance:</b></p>	<p>This eCQM is an episode-of-care measure and should be reported for each instance of a new or recurrent episode of major depressive disorder (MDD); every new or recurrent episode will count separately in the Initial Population.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Suicide risk assessments completed via telehealth services can also meet numerator performance.</p> <p>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.</p> <p>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.</p>
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<b>Guidance: (cont.)</b>	covers children and adolescents aged 6 through 17, and CMS 161 covers the adult population aged 18 years and older, as no individual suicide risk assessment tool or instrument would satisfy the requirements alone
<b>Initial Population:</b>	Patient visits during which a new diagnosis of MDD, single or recurrent episode, was identified
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	None.
<b>Numerator:</b>	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
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.
<b>Initial Population:</b>	All patients aged 18 years and older with a diagnosis of MDD.
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	None.
<b>Numerator:</b>	Patients with a suicide risk assessment completed during the visit in which a new diagnosis or recurrent episode was identified.
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.22.2 Data Entry

<b>Description:</b>	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.
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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).

### 3.22.3 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)

### 3.22.4 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)"

## 3.23 CMS165V9 Controlling High Blood Pressure

### 3.23.1 Detail

<b>Description:</b>	Percentage of patients 18-85 years of age who had a diagnosis of hypertension overlapping the measurement period or the year prior to the measurement period, and whose most recent blood pressure was adequately controlled (<140/90mmHg) during the measurement period
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<b>Rationale:</b>	<p>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 <math>\geq 20</math> years of age had HBP (140/90 mm Hg) between 2011 to 2014 (Crim, 2012). Between 2011-2014 the prevalence of hypertension (<math>\geq 140/90</math> mm Hg) among US adults 60 and older was approximately 67.2 percent (Benjamin et al., 2017).</p> <p>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, &amp; 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).</p> <p>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 <math>\geq 160</math> mm Hg could be effective and cost-saving (Moran et al., 2015).</p> <p>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 <math>&lt;120</math> mm Hg compared to a SBP goal of <math>&lt;140</math> 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).</p> <p>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.</p>
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<p><b>Clinical Recommendation Statement:</b></p>	<p>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.</p> <p>American College of Cardiology/American Heart Association (2017)</p> <p>-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))</p> <p>-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))</p> <p>American College of Physicians and the American Academy of Family Physicians (2017):</p> <p>-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)</p> <p>-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)</p> <p>American Diabetes Association (2019):</p> <p>-For individuals with diabetes and hypertension at higher cardiovascular risk (existing atherosclerotic cardiovascular disease or 10-year atherosclerotic cardiovascular disease risk &gt;15%), a blood pressure target of &lt;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 &lt;15%), treat to a blood pressure target of &lt;140/90 mmHg (Level of evidence: A)</p>
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<b>Guidance:</b>	<p>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.</p> <p>Do not include BP readings:</p> <ul style="list-style-type: none"> <li>-Taken during an acute inpatient stay or an ED visit</li> <li>-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.</li> <li>-Reported by or taken by the member</li> </ul> <p>If no blood pressure is recorded during the measurement period, the patient's blood pressure is assumed "not controlled."</p> <p>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.</p>
<b>Initial Population:</b>	Patients 18-85 years of age who had a visit and diagnosis of essential hypertension overlapping the measurement period or the year prior to the measurement period
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	<p>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.</p> <p>Exclude patients whose hospice care overlaps the measurement period.</p> <p>Exclude patients 66 and older who are living long term in an institution for more than 90 consecutive days during the measurement period.</p> <p>Exclude patients 66 and older with advanced illness and frailty because it is unlikely that patients will benefit from the services being measured.</p>
<b>Numerator:</b>	Patients whose most recent blood pressure is adequately controlled (systolic blood pressure < 140 mmHg and diastolic blood pressure < 90 mmHg) during the measurement period
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.23.2 Data Entry

<b>Description:</b>	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period.
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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:

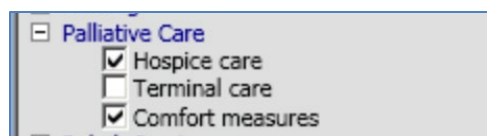


Figure 3-38: Palliative Care list

- 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.

### 3.23.3 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 "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 "ED" (2.16.840.1.113883.3.464.1003.101.12.1085)
- 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 "Outpatient" (2.16.840.1.113883.3.464.1003.101.12.1087)
- 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 "Vascular Access for Dialysis"  
(2.16.840.1.113883.3.464.1003.109.12.1011)

### 3.23.4 Data Criteria (QDM Data Elements)

- "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: ED" using "ED (2.16.840.1.113883.3.464.1003.101.12.1085)"
- "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: 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)"
- "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)"
- "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)"
- "Procedure, Performed: Vascular Access for Dialysis" using "Vascular Access for Dialysis (2.16.840.1.113883.3.464.1003.109.12.1011)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075)"



## 3.24 CMS177V9 Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment

### 3.24.1 Detail

<b>Description</b>	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.
<b>Rationale</b>	Research has shown that patients with major depressive disorder are at a high risk for suicide attempts and completion - among the most significant and devastating sequelae of the disease. 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 (Louma, 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.

<p><b>Clinical Recommendation Statement</b></p>	<p>The evaluation must include assessment for the presence of harm to self or others (MS) (American Academy of Child and Adolescent Psychiatry, 2007).</p> <p>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).</p> <p>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).</p>
<p><b>Definition</b></p>	<p>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:</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. Current severity of suicidality.</li> <li>3. Most severe point of suicidality in episode and lifetime.</li> </ol> <p>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.</p>

<b>Guidance</b>	<p>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.</p> <p>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.</p> <p>Suicide risk assessments completed via telehealth services can also meet numerator performance.</p> <p>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.</p> <p>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.</p>
<b>Initial Population</b>	All patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder.
<b>Denominator</b>	Equals Initial Population.
<b>Denominator Exclusions</b>	None.
<b>Numerator</b>	Patient visits with an assessment for suicide risk.
<b>Numerator Exclusions</b>	Not Applicable.
<b>Denominator Exceptions</b>	None.
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.24.2 Detail

<b>Description:</b>	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.
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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 Set 2.16.840.1.113883.3.526.3.1018).
- 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).

### 3.24.3 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)

### 3.24.4 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)"

## 3.25 CMS347V4 Statin Therapy for the Prevention and Treatment of Cardiovascular Disease

### 3.25.1 Detail

<b>Description:</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• Adults aged <math>\geq 21</math> years who were previously diagnosed with or currently have an active diagnosis of clinical atherosclerotic cardiovascular disease (ASCVD).</li> <li>• Adults aged <math>\geq 21</math> years who have ever had a fasting or direct LDL-C level <math>\geq 190</math> mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia.</li> <li>• Adults aged 40-75 years with a diagnosis of diabetes with a fasting or direct LDL-C level of 70-189 mg/dL.</li> </ul>
<b>Rate Aggregation:</b>	<p>This measure is intended to have one reporting rate, which aggregates the following populations into a single performance rate for reporting purposes:</p> <p>Population 1: Patients aged <math>\geq 21</math> years at the beginning of the measurement period with clinical ASCVD</p> <p>Population 2: Patients aged <math>\geq 21</math> years at the beginning of the measurement period who have ever had a fasting or direct laboratory test result of LDL-C <math>\geq 190</math> mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia</p> <p>Population 3: Patients aged 40 to 75 years at the beginning of the measurement period with Type 1 or Type 2 diabetes and with a LDL-C result of 70 -189 mg/dL recorded as the highest fasting or direct laboratory test result in the measurement year or during the two years prior to the beginning of the measurement period For the purposes of this measure, a single performance rate can be calculated as follows:</p> $\text{Performance Rate} = \frac{(\text{Numerator 1} + \text{Numerator 2} + \text{Numerator 3})}{[(\text{Denominator 1} - \text{Denominator Exclusions 1} - \text{Denominator Exceptions 1}) + (\text{Denominator 2} - \text{Denominator Exclusions 2} - \text{Denominator Exceptions 2}) + (\text{Denominator 3} - \text{Denominator Exclusions 3} - \text{Denominator Exceptions 3})]}$

<p><b>Rationale:</b></p>	<p>"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).</p> <p>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).</p> <p>In 2013, guidelines on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults were published (see Stone et al., 2014). 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) 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 Atherosclerotic Cardiovascular Disease (ASCVD) in adult men and women (21 years of age or older). The document concludes the addition of statin therapy reduces the risk of ASCVD among high-risk individuals, defined as follows: individuals with clinical ASCVD, with LDL-C <math>\geq</math> 190 mg/dL, or with diabetes and LDL-C 70-189 mg/dL (Stone et al., 2014).</p> <p>One study that surveyed 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). The Statin Safety Expert Panel that participated in an NLA Statin Safety Task Force meeting in October 2013 reaffirms the general safety of statin therapy.</p> <p>However, 1 in 10 people who try taking a statin will report some kind of intolerance, most commonly muscle aches. Other known low risk circumstances of statin intolerance include side effects such as myopathy, cognitive dysfunction, increased hepatic transaminase levels, and new onset diabetes. Statin intolerance</p>
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<b>Rationale: (cont.)</b>	usually does not involve substantial risk for mortality or permanent disability (Guyton et al., 2014). 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 outweighs any potential harm related to the drug (Jacobson, 2014)
<b>Clinical Recommendation Statement:</b>	<p>This electronic clinical quality measure is intended to align with the 2013 ACC/AHA Guideline on the Treatment 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.</p> <p>Recommendations for Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults - Statin Treatment: Secondary Prevention:</p> <ol style="list-style-type: none"> <li>1. High-intensity statin therapy should be initiated or continued as first-line therapy in women and men <math>\leq 75</math> years of age who have clinical ASCVD, unless contraindicated. (Level of Evidence A), (Stone et al., 2014)</li> <li>2. In individuals with clinical ASCVD in whom high-intensity statin therapy would otherwise be used, when high-intensity statin therapy is contraindicated or when characteristics predisposing to statin-associated adverse effects are present, moderate-intensity statin should be used as the second option, if tolerated. (Level of Evidence A), (Stone et al., 2014)</li> </ol> <p>Primary Prevention in Individuals <math>\geq 21</math> Years of Age With LDL-C <math>\geq 190</math> mg/dL:</p> <ol style="list-style-type: none"> <li>2. Adults <math>\geq 21</math> years of age with primary LDL-C <math>\geq 190</math> mg/dL should be treated with statin therapy. (10-year ASCVD risk estimation is not required.) (Level of Evidence B), (Stone et al., 2014)</li> </ol> <p>Primary Prevention in Individuals With Diabetes and LDL-C 70-189 mg/dL:</p> <ol style="list-style-type: none"> <li>1. Moderate-intensity statin therapy should be initiated or continued for adults 40-75 years of age with diabetes. (Level of Evidence A), (Stone et al., 2014)</li> </ol>



<b>Definition:</b>	<p>Clinical atherosclerotic cardiovascular disease (ASCVD) includes:</p> <ul style="list-style-type: none"> <li>* Acute coronary syndromes</li> <li>* History of myocardial infarction</li> <li>* Stable or unstable angina</li> <li>* Coronary or other arterial revascularization</li> <li>* Stroke or transient ischemic attack (TIA)</li> <li>* Peripheral arterial disease of atherosclerotic origin</li> </ul> <p>Lipoprotein density cholesterol (LDL-C) result:</p> <ul style="list-style-type: none"> <li>* A fasting or direct LDL-C laboratory test performed, and test result documented in the medical record.</li> </ul> <p>Statin therapy:</p> <ul style="list-style-type: none"> <li>* Administration of one or more of a group of medications that are used to lower plasma lipoprotein levels in the treatment of hyperlipoproteinemia.</li> </ul> <p>Statin Medication Therapy List (NOTE: List does NOT include dosage):</p> <p>[Generic name] (Brand or trade name) and (-) Medication type, if applicable:</p> <p>[Atorvastatin] (Lipitor) - Statin  [Fluvastatin] (Lescol XL or Lescol) - Statin  [Lovastatin (Mevinolin)](Mevacor or Altoprev) -Statin  [Pitavastatin]Livalo  [Pravastatin Sodium] (Pravachol) - Statin  [Rosuvastatin Calcium] (Crestor) - Statin  [Simvastatin] (Zocor) - Statin  [Amlodipine Besylate/Atorvastatin Calcium] (Caduet) - Combination  [Ezetimibe/Simvastatin] (Vytorin) - Combination</p> <p>Some patients may not be appropriate to prescribe or use statin therapy (see exceptions and exclusions for a complete list).</p> <p>"Statin intolerance is the inability to tolerate a dose of statin required to reduce a person's CV risk sufficiently from their baseline risk and could result from different statin related side effects including: muscle symptoms, headache, sleep disorders, dyspepsia, nausea, rash, alopecia, erectile dysfunction, gynecomastia, and/or arthritis" (Banach et al., 2015, p.2 ).</p> <p>Patients that experience symptoms such as these may prefer not to take or continue statin therapy and therefore may be exempt from the denominator.</p>
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<b>Guidance:</b>	<p>Numerator instructions and guidance:</p> <ul style="list-style-type: none"> <li>-Current statin therapy use must be documented in the patient's current medication list or ordered during the measurement period.</li> <li>-ONLY statin therapy meets the measure Numerator criteria (NOT other cholesterol lowering medications).</li> <li>-Prescription or order does NOT need to be linked to an encounter or visit; it may be called to the pharmacy.</li> <li>-Statin medication "samples" provided to patients can be documented as "current statin therapy" if documented in the medication list in health/medical record.</li> <li>-Patients who meet the denominator criteria for inclusion, but are not prescribed or using statin therapy, will NOT meet performance for this measure. There is only one performance rate calculated for this measure; the weighted average of the three populations.</li> <li>-Adherence to statin therapy is not calculated in this measure.</li> </ul> <p>Denominator Guidance: The denominator covers three distinct populations. Use the following process to prevent counting patients more than once.</p> <p>Denominator Population 1: Patients aged <math>\geq 21</math> years at the beginning of the measurement period with clinical ASCVD</p> <ul style="list-style-type: none"> <li>-If YES, meets Denominator Population 1 risk category</li> <li>-If NO, screen for next risk category</li> </ul> <p>Denominator Population 2: Patients aged <math>\geq 21</math> years at the beginning of the measurement period who have ever had a fasting or direct laboratory test result of LDL-C <math>\geq 190</math> mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia</p> <ul style="list-style-type: none"> <li>-If YES, meets Denominator Population 2 risk category</li> <li>-If NO, screen for next risk category</li> </ul> <p>Denominator Population 3: Patients aged 40 to 75 years at the beginning of the measurement period with Type 1 or Type 2 diabetes and with a LDL-C result of 70 -189 mg/dL recorded as the highest fasting or direct laboratory test result in the measurement year or during the two years prior to the beginning of the measurement period</p> <ul style="list-style-type: none"> <li>-If YES, meets Denominator Population 3 risk category</li> <li>-If NO, patient does NOT meet Denominator criteria and is NOT eligible for measure inclusion</li> </ul> <p>Denominator Guidance for Encounter: -In order for the patient to be included in the denominator, the patient must have ONE denominator-eligible visit, defined as follows:</p> <ul style="list-style-type: none"> <li>--Outpatient encounter visit type</li> </ul>
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<b>Guidance: (cont.)</b>	<p>--Encounter, performed: initial or established office visit, face-to-face interaction, preventive care services, or annual wellness visit</p> <p>LDL-C Laboratory test result options: The measure can be reported for all patients with a documented fasting or direct LDL-C level recorded as follows:</p> <p>To meet Denominator Population 1: There is no LDL-C result required.</p> <p>To meet Denominator Population 2: If a patient has ANY previous fasting or direct laboratory result of LDL-C <math>\geq</math> 190 mg/dL, report the highest value <math>\geq</math> 190 mg/dL.</p> <p>To meet Denominator Population 3: If a patient has more than one LDL-C result during the measurement period or during the two years before the start of the measurement period, report the highest level recorded during either time. The Denominator Exception, "Patients with diabetes who have the most recent fasting or direct LDL-C laboratory test result <math>&lt;</math> 70 mg/dL and are not taking statin therapy" applies only to Denominator Population 3.</p> <p>Intensity of statin therapy in primary and secondary prevention:</p> <p>The expert panel of the 2013 ACC/AHA Guidelines (Stone et al., 2014) 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.</p> <p>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.</p>
<b>Initial Population:</b>	All patients aged 21 years and older at the beginning of the measurement period with a patient encounter during the measurement period.

<b>Denominator:</b>	<p>All patients who meet one or more of the following criteria (considered at "high risk" for cardiovascular events, under ACC/AHA guidelines):</p> <p>1) Patients aged <math>\geq 21</math> years at the beginning of the measurement period with clinical ASCVD diagnosis</p> <p>2) Patients aged <math>\geq 21</math> years at the beginning of the measurement period who have ever had a fasting or direct laboratory result of LDL-C <math>\geq 190</math> mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia</p> <p>3) Patients aged 40 to 75 years at the beginning of the measurement period with Type 1 or Type 2 diabetes and with an LDL-C result of 70-189 mg/dL recorded as the highest fasting or direct laboratory test result in the measurement year or during the two years prior to the beginning of the measurement period</p>
<b>Denominator Exclusions:</b>	<p>Patients who have a diagnosis of pregnancy.</p> <p>Patients who are breastfeeding.</p> <p>Patients who have a diagnosis of rhabdomyolysis.</p>
<b>Numerator:</b>	<p>Patients who are actively using or who receive an order (prescription) for statin therapy at any point during the measurement period.</p>
<b>Numerator Exclusions:</b>	<p>None.</p>
<b>Denominator Exceptions:</b>	<p>Patients with adverse effect, allergy, or intolerance to statin medication</p> <p>Patients who are receiving palliative or hospice care</p> <p>Patients with active liver disease or hepatic disease or insufficiency</p> <p>Patients with end-stage renal disease (ESRD)</p> <p>Patients with diabetes who have the most recent fasting or direct LDL-C laboratory test result <math>&lt; 70</math> mg/dL and are not taking statin therapy</p>
<b>Supplemental Data Elements:</b>	<p>For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.</p>

### 3.25.2 Data Entry

<b>Description:</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• Adults aged <math>\geq 21</math> years who were previously diagnosed with or currently have an active diagnosis of clinical ASCVD.</li> <li>• Adults aged <math>\geq 21</math> years who have ever had a fasting or direct low-density lipoprotein cholesterol (LDL-C) level <math>\geq 190</math> mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia.</li> <li>• Adults aged 40-75 years with a diagnosis of diabetes with a fasting or direct LDL-C level of 70-189 mg/dL.</li> </ul>
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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,

### 3.25.3 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 "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 "Hypercholesterolemia" (2.16.840.1.113762.1.4.1047.100)

- 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)

### 3.25.4 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: 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: Hypercholesterolemia" using "Hypercholesterolemia (2.16.840.1.113762.1.4.1047.100)"
- "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)"
- "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)"

## 3.26 CMS349V3 HIV Screening

### 3.26.1 Detail

<b>Description:</b>	Percentage of patients aged 15-65 at the start of the measurement period who were between 15-65 years old when tested for HIV
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<p><b>Rationale:</b></p>	<p>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 antiretroviral therapy for all HIV-infected individuals to reduce the risk of disease progression (regardless of CD4 cell count at diagnosis) (Panel on Antiretroviral Guidelines for Adults and Adolescents, 2017).</p> <p>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/mm<sup>3</sup> 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, 2017).</p> <p>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).</p>
<p><b>Clinical Recommendation Statement:</b></p>	<p>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).</p> <p>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).</p>

<b>Guidance:</b>	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].
<b>Initial Population:</b>	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
<b>Denominator:</b>	Equals Initial Population.
<b>Denominator Exclusions:</b>	Patients diagnosed with HIV prior to the start of the measurement period.
<b>Numerator:</b>	Patients with documentation of an HIV test performed on or after their 15th birthday and before their 66th birthday
<b>Numerator Exclusions:</b>	Not Applicable.
<b>Denominator Exceptions:</b>	None.
<b>Supplemental Data Elements:</b>	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex.

### 3.26.2 Data Entry

<b>Description:</b>	Percentage of patients 15-65 years of age who have been tested for HIV within that age range.
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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.

### 3.26.3 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)

### 3.26.4 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.



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

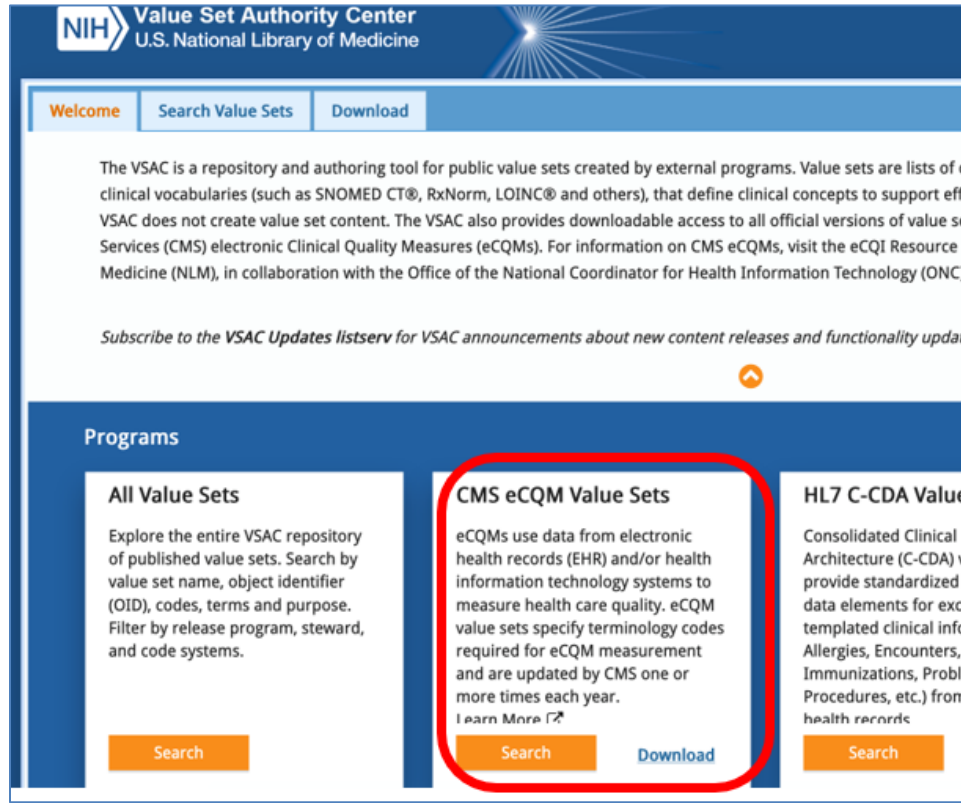


Figure A-2: Value Set Authority Center Welcome page

The following search page displays:

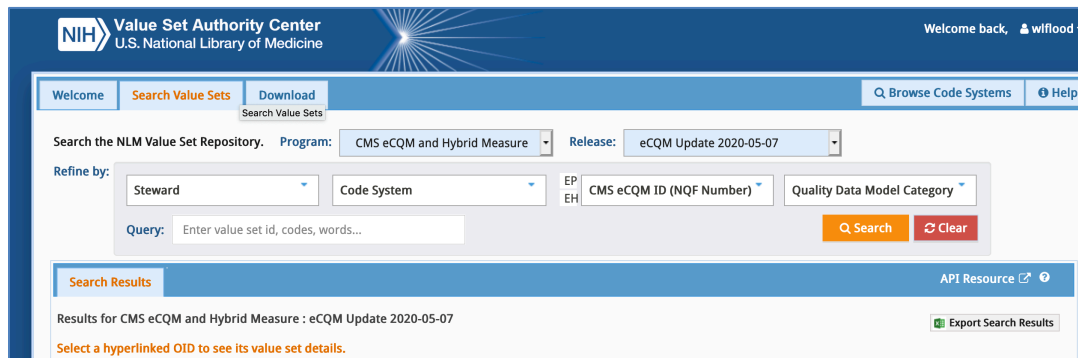


Figure A-3: Value Set Authority Center search page

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).

Name	Code System	Definition Type	Steward	OID	Code Count
Encounter to Screen for Depression	CPT HCPCS SNOMEDCT	Grouping	PCPI	2.16.840.1.113883.3.600.1916	105

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

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

Metadata

Description

Measure

Grouping Members

**Name:** Encounter to Screen for Depression **OID:** 2.16.840.1.113883.3.600.1916

**Code System:** CPT, HCPCS, SNOMEDCT **Steward:** [Contact](#)  
PCPI Foundation

**Value Set Definition**

**Definition Type:** Grouping **Definition Version:** [?](#)  
20170504

**Program:**  
CMS, eCQM Update 2020-05-07 using this value set

**Expansion Details**

**Expansion Profile**  
eCQM Update 2020-05-07 [View](#)

**Value Set Members**

**Expanded Code List**

View Toggle Clear Page 1 of 6 20 View 1 - 20 of 105

Code	Descriptor	Code System	Version
10197000	Psychiatric interview and evaluation (procedure)	SNOMEDCT	2019-09
108220007	Evaluation AND/OR management - new patient (procedure)	SNOMEDCT	2019-09
108221006	Evaluation AND/OR management - established patient (procedure)	Evaluation AND/OR management - new patient (proce	
108224003	Preventive patient evaluation (procedure)	SNOMEDCT	2019-09
108311000	Psychiatric procedure, interview AND/OR consultation (procedure)	SNOMEDCT	2019-09

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>.

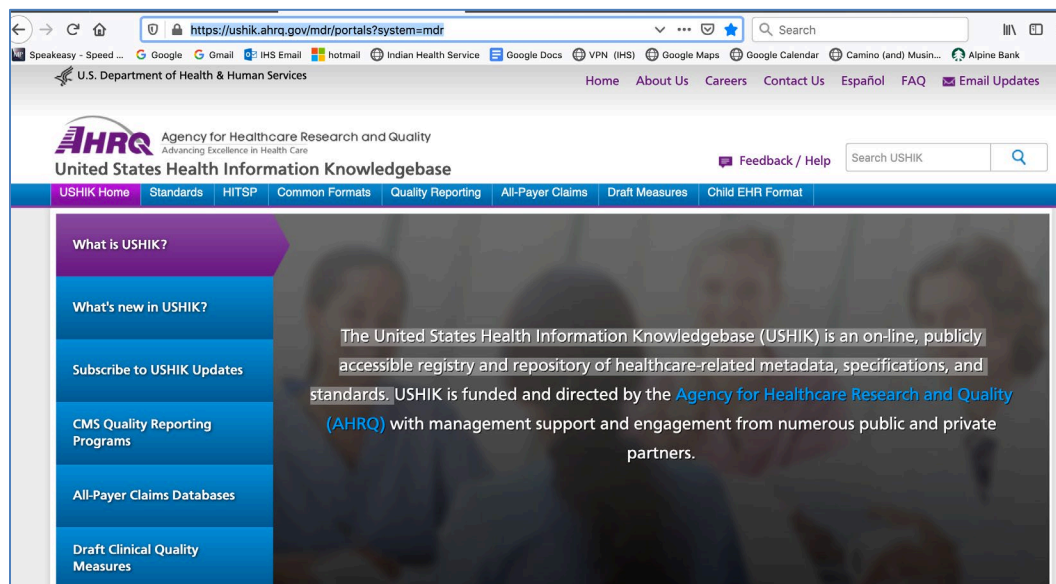


Figure B-1: United States Health Information Knowledgebase main page

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

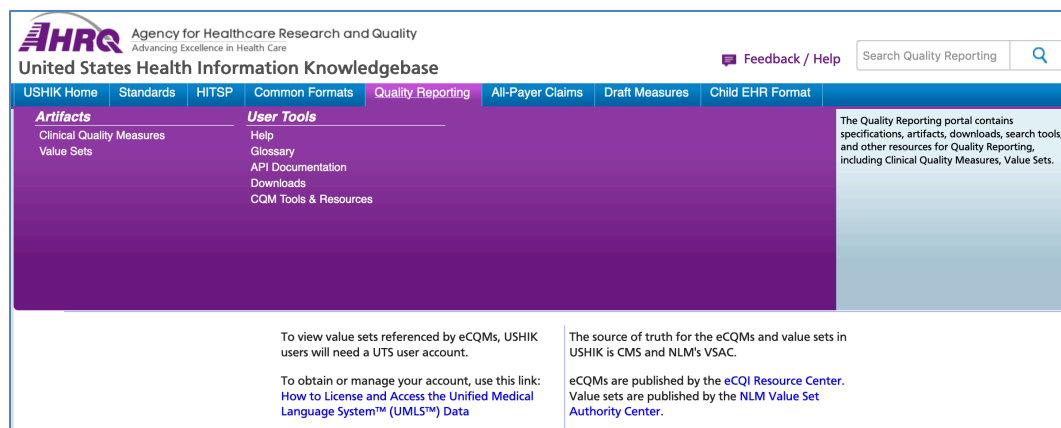


Figure B-2: USHIK Quality Reporting

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

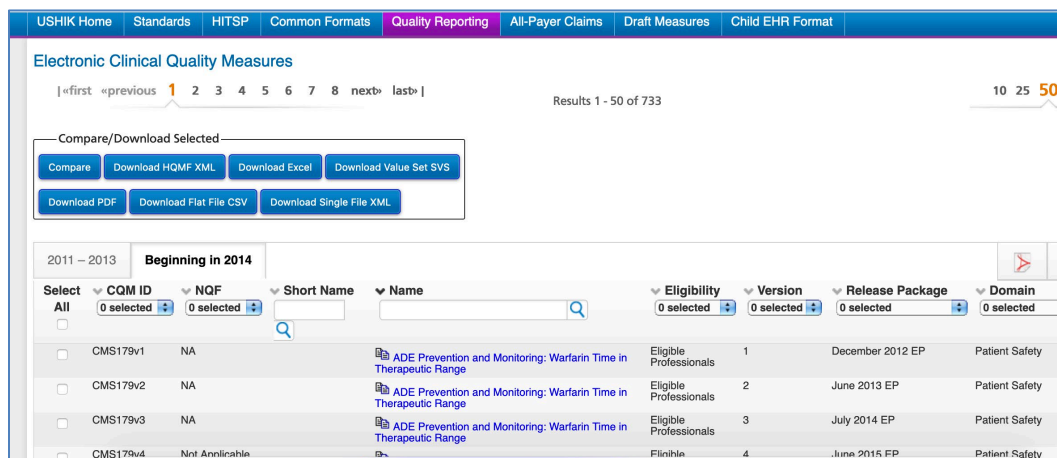


Figure B-3: eCQM Reporting

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:

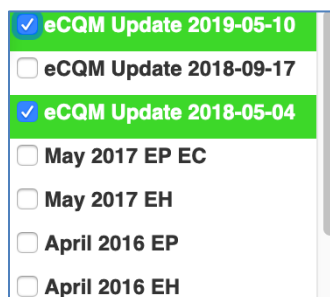


Figure B-4: eCQM Updates

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

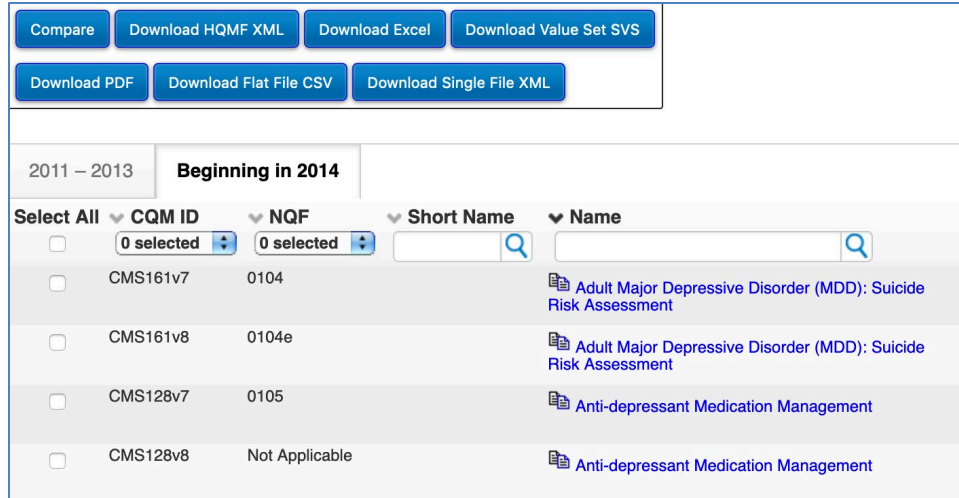


Figure B-5: Choose Versions to compare

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

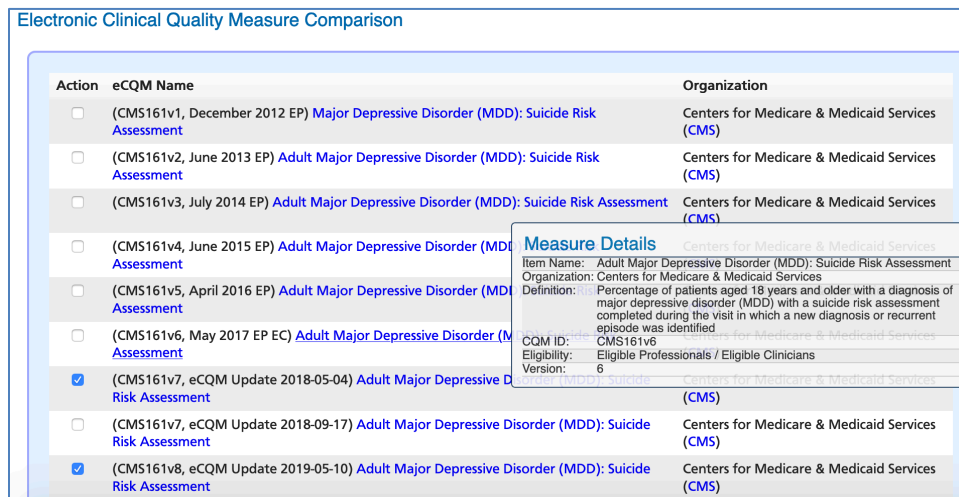


Figure B-6: Comparison Results

- 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.

Identifying Attributes	Population Criteria	QDM Data Elements & Codes
(CMS161v7, eCQM Update 2018-05-04) <b>Adult Major Depressive Disorder (MDD): Suicide Risk Assessment</b>		<p>Quality Data Element: <i>Birth date</i> not present in this measure.</p> <p>Name: Birth date Category: Value Set OID: Value Set Expansion Version:</p>
		<p>Name: Encounter, Performed: Emergency Department Visit Category: Encounter Value Set OID: 2.16.840.1.113883.3.464.1003.101.12.1010 Value Set Expansion eCQM Update 2018-09-17 Version:</p> <p>CPT - Version: 2018</p> <p>99281 99282 99283 99284 99285</p> <p>SNOMEDCT - Version: 2018-03</p> <p>4525004</p>
		<p>Name: Encounter, Performed: Emergency Department Visit Category: Encounter Value Set OID: 2.16.840.1.113883.3.464.1003.101.12.1010 Value Set Expansion eCQM Update 2018-09-17 Version:</p> <p>CPT - Version: 2018</p> <p>99281 99282 99283 99284 99285</p> <p>SNOMEDCT - Version: 2018-03</p> <p>4525004</p>
		<p>Name: Encounter, Performed: Office Visit Category: Encounter Value Set OID: 2.16.840.1.113883.3.464.1003.101.12.1001 Value Set Expansion eCQM Update 2018-09-17 Version:</p> <p>CPT - Version: 2018</p> <p>99211 99212 99213 99214 99215</p> <p>SNOMEDCT - Version: 2018-03</p> <p>4525004</p>
		<p>Name: Encounter, Performed: Office Visit Category: Encounter Value Set OID: 2.16.840.1.113883.3.464.1003.101.12.1001 Value Set Expansion eCQM Update 2018-09-17 Version:</p> <p>CPT - Version: 2018</p> <p>99211 99212 99213 99214 99215</p> <p>SNOMEDCT - Version: 2018-03</p> <p>4525004</p>

Figure B-7: CQM Data Elements and Codes

Version 7 codes are on the left. Version 8 on the right. You can hover 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:

90845	90845
Encounter, Performed: Telehealth Services Quality Data Element: not present in this measure.	<p>Name: Encounter, Performed: Telehealth Services Category: Encounter Value Set OID: 2.16.840.1.113883.3.464.1003.101.12.1031 Value Set Expansion eCQM Update 2018-09-17 Version:</p> <p>CPT - Version: 2018</p> <p>98966 98967 98968 98969 99441 99442 99443 99444</p>

Figure B-8: CQM Data Elements and Codes

- 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.

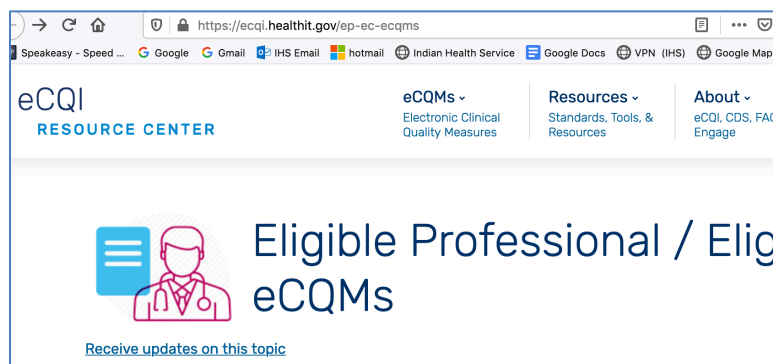


Figure C-1: eCQI Resource Center

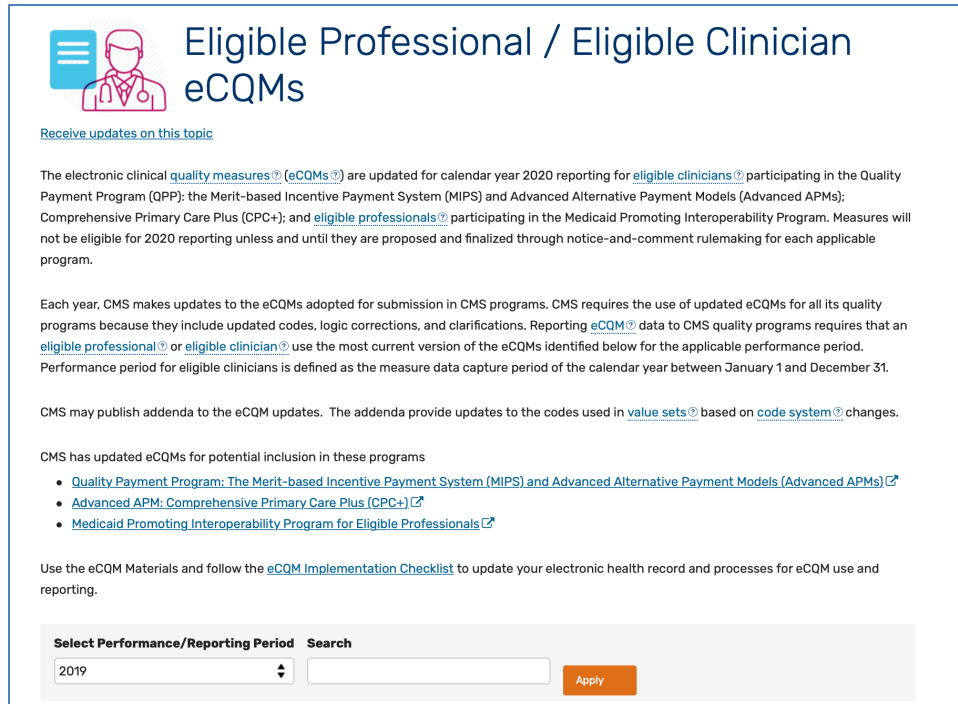
3. Click the **eCQM** drop down to select hospital or provider measures.



Figure C-2: Select Measures

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





**Eligible Professional / Eligible Clinician eCQMs**

[Receive updates on this topic](#)

The electronic clinical [quality measures](#) (eCQMs) are updated for calendar year 2020 reporting for [eligible clinicians](#) participating in the Quality Payment Program (QPP); the Merit-based Incentive Payment System (MIPS) and Advanced Alternative Payment Models (Advanced APMs); Comprehensive Primary Care Plus (CPC+); and [eligible professionals](#) participating in the Medicaid Promoting Interoperability Program. Measures will not be eligible for 2020 reporting unless and until they are proposed and finalized through notice-and-comment rulemaking for each applicable program.

Each year, CMS makes updates to the eCQMs adopted for submission in CMS programs. CMS requires the use of updated eCQMs for all its quality programs because they include updated codes, logic corrections, and clarifications. Reporting eCQM data to CMS quality programs requires that an [eligible professional](#) or [eligible clinician](#) use the most current version of the eCQMs identified below for the applicable performance period. Performance period for eligible clinicians is defined as the measure data capture period of the calendar year between January 1 and December 31.

CMS may publish addenda to the eCQM updates. The addenda provide updates to the codes used in [value sets](#) based on [code system](#) changes.

CMS has updated eCQMs for potential inclusion in these programs

- [Quality Payment Program: The Merit-based Incentive Payment System \(MIPS\) and Advanced Alternative Payment Models \(Advanced APMs\)](#)
- [Advanced APM: Comprehensive Primary Care Plus \(CPC+\)](#)
- [Medicaid Promoting Interoperability Program for Eligible Professionals](#)

Use the eCQM Materials and follow the [eCQM Implementation Checklist](#) to update your electronic health record and processes for eCQM use and reporting.

Select Performance/Reporting Period    Search

2019    Apply

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.

2019

2019 Performance Period Eligible Professional / Eligible Clinician eCQMs Pre-Rulemaking eCQMs

For Use	eCQM Materials	Published
Jan 1 – Dec 31 2019	<a href="#">Implementation Checklist eCQM Annual Update</a>	
Jan 1 – Dec 31 2019	<a href="#">Implementation Checklist eCQM Addendum</a>	
Jan 1 – Dec 31 2019	<a href="#">Guide for Reading eCQMs (PDF)</a>	May 2018
Jan 1 – Dec 31 2019	<a href="#">Eligible Clinicians and Eligible Professionals Table of eCQMs (PDF)</a>	May 2019
Jan 1 – Dec 31 2019	<a href="#">eCQM Specifications for Eligible Clinicians and Eligible Professionals (ZIP)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Value Sets Addendum</a>	Sep 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Value Set Addendum FAQs (PDF)</a>	Jul 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Direct Reference Codes List</a>	Sep 2018
Jan 1 – Dec 31 2019	<a href="#">Binding Parameter Specification (BPS) Addendum</a>	Sep 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Logic and Implementation Guidance v2.0 (PDF)</a>	May 2018
Jan 1 – Dec 31 2019	<a href="#">Technical Release Notes (code system updates only) Addendum (PDF)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">Technical Release Notes Addendum (PDF)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">Technical Release Notes (code system updates only) Addendum (ZIP)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">Technical Release Notes Addendum (ZIP)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Flows - 1 of 3 (ZIP)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Flows - 2 of 3 (ZIP)</a>	Aug 2018
Jan 1 – Dec 31 2019	<a href="#">eCQM Flows - 3 of 3 (ZIP)</a>	Nov 2018
Jan 1 – Dec 31 2019	<a href="#">2019 Quality Benchmarks</a>	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 ↕
<a href="#">Adult Major Depressive Disorder (MDD): Suicide Risk Assessment</a>	CMS161v7	Effective Clinical Care	0104	107	Prevention, Treatment, and Management of Mental Health	
<a href="#">Anti-depressant Medication Management</a>	CMS128v7	Effective Clinical Care	0105	009	Prevention and Treatment of Opioid and Substance Use Disorders	Meaningful Measure updated May 2019
<a href="#">Appropriate Testing for Children with Pharyngitis</a>	CMS146v7	Efficiency and Cost Reduction	None	066	Appropriate Use of Healthcare	
<a href="#">Appropriate Treatment for Children with Upper Respiratory Infection (URI)</a>	CMS154v7	Efficiency and Cost Reduction	0069	065	Appropriate Use of Healthcare	
<a href="#">Appropriate Use of DXA Scans in Women Under 65 Years Who Do Not Meet the Risk Factor Profile for Osteoporotic Fracture</a>	CMS249v1	Efficiency and Cost Reduction	None	472	Appropriate Use of Healthcare	
<a href="#">Bone density evaluation for patients with prostate cancer and receiving androgen deprivation therapy</a>	CMS645v2	Effective Clinical Care	None	462	Management of Chronic Conditions	
<a href="#">Breast Cancer Screening</a>	CMS125v7	Effective Clinical Care	2372	112	Preventive Care	
<a href="#">Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery</a>	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.

## Breast Cancer Screening

[Receive updates on this topic](#)

### eQMs for 2019 Performance Period

- [CMS2v8](#)
- [CMS22v7](#)
- [CMS50v7](#)
- [CMS52v7](#)
- [CMS56v7](#)
- [CMS66v7](#)
- [CMS68v8](#)
- [CMS69v7](#)
- [CMS74v8](#)
- [CMS75v7](#)
- [CMS82v6](#)
- [CMS90v8](#)
- [CMS117v7](#)
- [CMS122v7](#)
- [CMS124v7](#)
- CMS125v7

**CMS Measure ID:** CMS125v7

**Version:** 7

**NQF Number:** 2372

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

**Initial Population:** Women 51-74 years of age with a visit during the measurement period

**Denominator Statement:** 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 whose hospice care overlaps the measurement period.

**Numerator Statement:** Women with one or more mammograms during the measurement period or the 15 months prior to the measurement period

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).

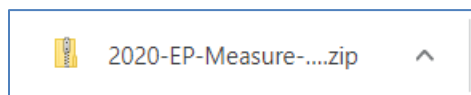


Figure C-7: ZIP file

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**:

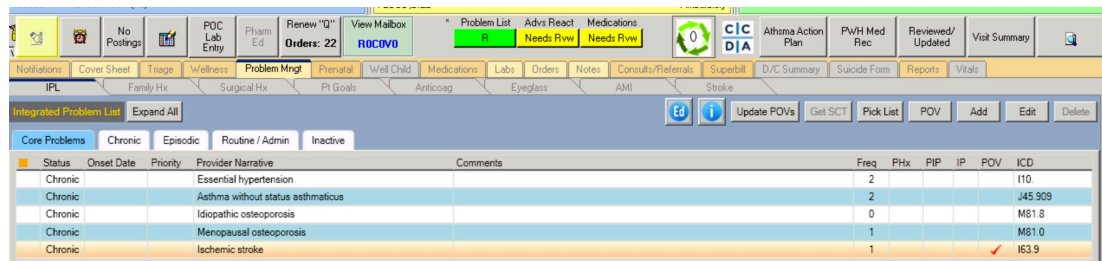


Figure D-1: Problem Management tab

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

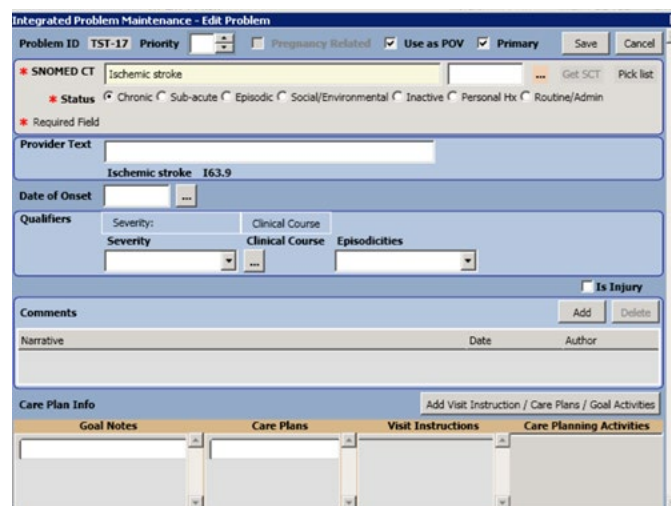


Figure D-2: Edit screen

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

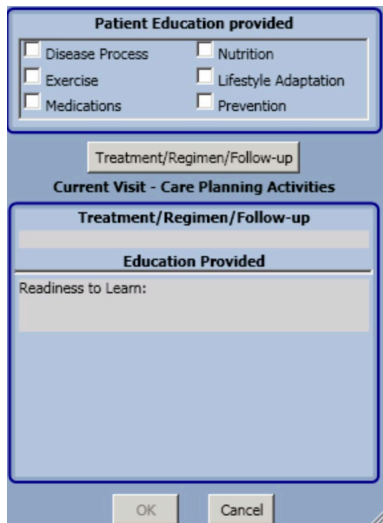


Figure D-3: Patient Education Provided dialog

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

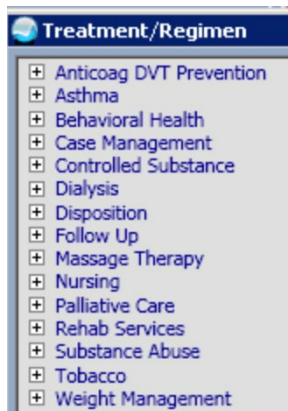


Figure D-4: Treatment/Regimen list

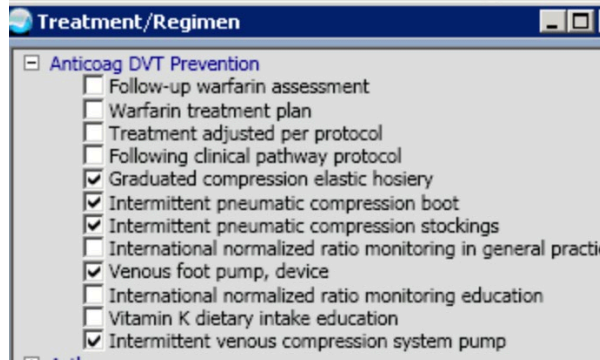


Figure D-5: Anticoag DVT Prevention list

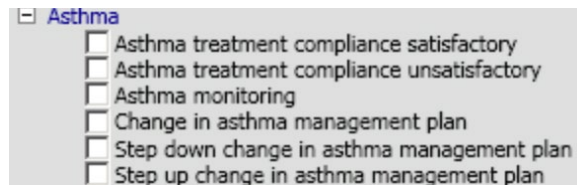


Figure D-6: Asthma list

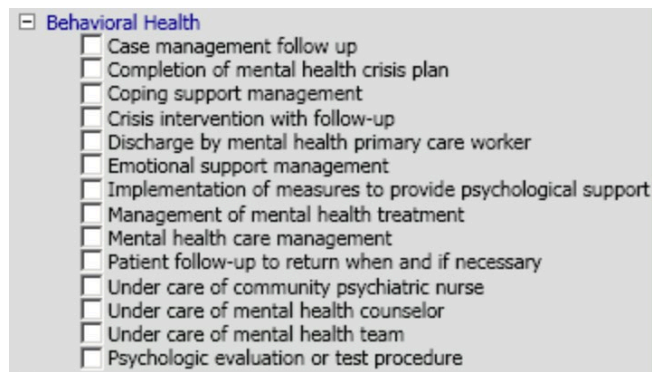


Figure D-7: Behavioral Health list

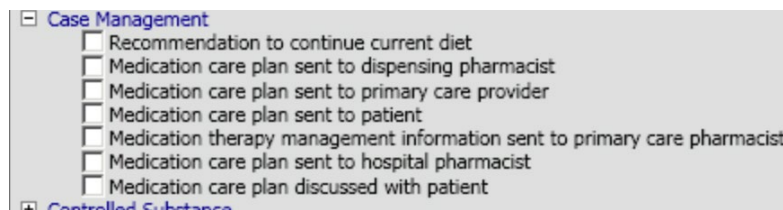


Figure D-8: Case Management list



Figure D-9: Controlled Substances list

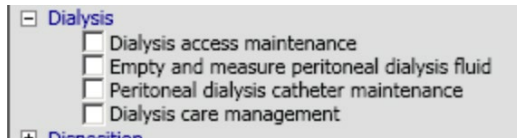


Figure D-10: Dialysis list



Figure D-11: Disposition list



Figure D-12: Follow-up list



Figure D-13: Massage Therapy list



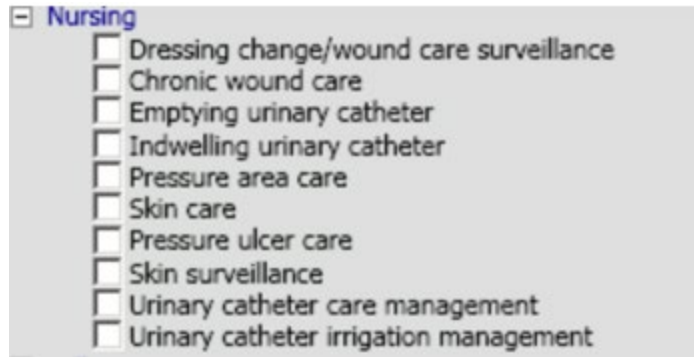


Figure D-14: Nursing list

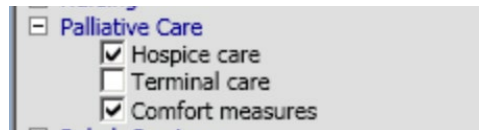


Figure D-15: Palliative Care list (These save codes are used by eCQM)

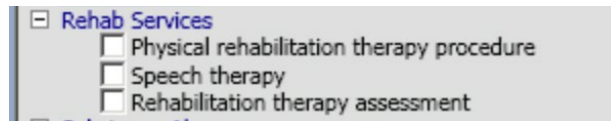


Figure D-16: Rehab Services list (These save codes are used by eCQM)

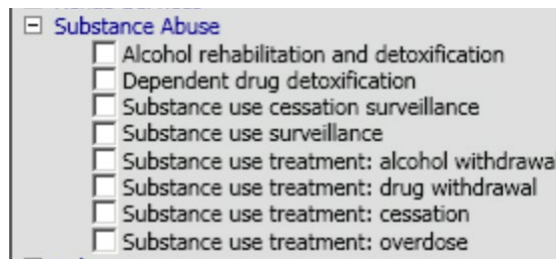


Figure D-17: Substance Abuse list (These save codes are used by eCQM)

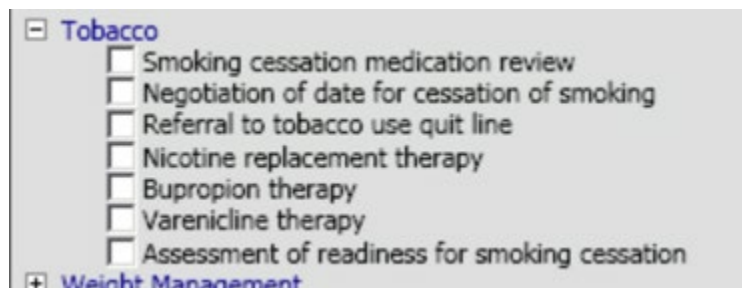


Figure D-18: Tobacco list (Medications on this list do NOT work for eCQM as they do not save in the required RxNORM format)

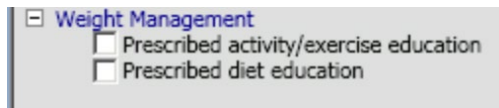


Figure D-19: Weight Management list

## 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>.

<p><b>Note:</b> Users must be logged on to the IHS D1 Intranet to access these documents.</p>
---

### 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
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

<b>Acronym</b>	<b>Term Meaning</b>
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
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
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

<b>Acronym</b>	<b>Term Meaning</b>
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
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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