

eCQM Title	Functional Status Assessment for Total Knee Replacement		
eCQM Identifier (Measure Authoring Tool)	66	eCQM Version number	7.5.000
NQF Number	Not Applicable	GUID	be8d9655-1194-46ef-b43e-4b1d0c36ab71
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	Centers for Medicare & Medicaid Services (CMS)		
Measure Developer	National Committee for Quality Assurance		
Endorsed By	None		
Description	Percentage of patients 18 years of age and older who received an elective primary total knee arthroplasty (TKA) and completed a functional status assessment within 90 days prior to the surgery and in the 270-365 days after the surgery		
Copyright	<p>This Physician Performance Measure (Measure) and related data specifications are owned and stewarded by the Centers for Medicare & Medicaid Services (CMS). CMS contracted (Contract HHSP23320095627WC; HHSP23337008T) with the National Committee for Quality Assurance (NCQA) to develop this electronic measure. NCQA is not responsible for any use of the Measure. NCQA makes no representations, warranties, or endorsement about the quality of any organization or physician that uses or reports performance measures and NCQA has no liability to anyone who relies on such measures or specifications.</p> <p>Limited proprietary coding is contained in the Measure specifications for user convenience. Users of proprietary code sets should obtain all necessary licenses from the owners of the code sets. NCQA disclaims all liability for use or accuracy of any third party codes contained in the specifications.</p> <p>CPT(R) contained in the Measure specifications is copyright 2004-2017 American Medical Association. LOINC(R) copyright 2004-2017 Regenstrief Institute, Inc. This material contains SNOMED Clinical Terms(R) (SNOMED CT[R]) copyright 2004-2017 International Health Terminology Standards Development Organisation. ICD-10 copyright 2017 World Health Organization. All Rights Reserved.</p>		
Disclaimer	<p>The performance Measure is not a clinical guideline and does not establish a standard of medical care, and has not been tested for all potential applications. THE MEASURE AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.</p> <p>Due to technical limitations, registered trademarks are indicated by (R) or [R] and unregistered trademarks are indicated by (TM) or [TM].</p>		
Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	Measuring functional status for patients undergoing total knee replacement permits longitudinal assessment - from the patient's perspective - of the impact of surgical intervention on pain, physical function, as well as health-related quality of life (Rothrock 2010).		
Clinical Recommendation Statement	The American Association of Hip and Knee Surgeons (AAHKS) states that it is important to ensure that the general/mental health survey be completed prior to surgery during the preoperative visit, as well as the post-operative visit. AAHKS recommends using a general health instrument, such as the VR-12 or PROMIS Global 10 in addition to condition-specific tools (AAHKS 2015).		
Improvement Notation	A higher score indicates better quality		
Reference	The American Association of Hip and Knee Surgeons (2015). Patient Reported Outcomes Summit for Total Joint Arthroplasty Report. Retrieved from the American Association of Hip and Knee Surgeons Website: http://www.aahks.org/wp-content/uploads/2016/08/AAHKS-2015-Outcomes-Summit-Report.pdf		
Reference	Rothrock NE, Hays RD, Spritzer K, Yount SE, Riley W, Cella D. Relative to the general US population, chronic diseases are associated with poorer health-related quality of life as measured by the Patient-Reported Outcomes Measurement Information System (PROMIS). J Clin Epidemiol 2010; 63(11):1195-204.		
Definition	None		
Guidance	<p>A Functional Status Assessment (FSA) is based on administration of a validated instrument to eligible patients that asks patients to answer questions related to various domains including: pain, physical function, emotional well-being, health-related quality of life, symptom acuity.</p> <p>The same FSA instrument must be used for the initial and follow-up assessment.</p>		
Transmission Format	TBD		
Initial Population	Patients 19 years of age and older who had a primary total knee arthroplasty (TKA) in the year prior to the measurement period and who had an outpatient encounter during the measurement period		
Denominator	Equals initial population		
Denominator Exclusions	<p>Patients with two or more fractures indicating trauma at the time of the total knee arthroplasty or patients with severe cognitive impairment that overlaps the measurement period.</p> <p>Exclude patients whose hospice care overlaps the measurement period.</p>		
Numerator	Patients with patient-reported functional status assessment results (i.e., VR-12, PROMIS-10 Global Health, KOOS, KOOS Jr.) in the 90 days prior to or on the day of the primary TKA procedure, and in the 270 - 365 days after the TKA procedure		
Numerator Exclusions	Not applicable		
Denominator Exceptions	None		
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity, and sex		

Table of Contents

- [Population Criteria](#)
- [Definitions](#)
- [Functions](#)
- [Terminology](#)
- [Data Criteria \(QDM Data Elements\)](#)
- [Supplemental Data Elements](#)
- [Risk Adjustment Variables](#)

Population Criteria

Initial Population

exists ("Total Knee Arthroplasty Procedure")
 and exists ("Qualifying Encounters")
 and exists (["Patient Characteristic Birthdate"] Birthdate
 where Global."CalendarAgeInYearsAt"(Birthdate.birthDatetime, start of "Measurement Period")>= 19
)

Denominator

"Initial Population"

Denominator Exclusions

Hospice."Has Hospice"
 or exists "Total Knee Arthroplasty with 2 or More Lower Body Fractures"
 or exists "Dementia Diagnosis"

▲ Numerator

exists ("Total Knee Arthroplasty with Initial Assessment")
and exists ("Knee Assessment 270 to 365 Days after Total Knee Arthroplasty Procedure")

▲ Numerator Exclusions

None

▲ Denominator Exceptions

None

▲ Stratification

None

Definitions

▲ Completed Assessment

(["Assessment, Performed": "Knee Injury and Osteoarthritis Outcome Score for Joint Replacement [KOOSJR]"] KOOSJR
where KOOSJR.result is not null
)
union "KOOS Total Assessment"
union "VR12 Total Assessment"
union "PROMIS10 Total Assessment"

▲ Dementia Diagnosis

["Diagnosis": "Severe dementia (disorder)"] Dementia
where Dementia.prevalencePeriod overlaps "Measurement Period"

▲ Denominator

"Initial Population"

▲ Denominator Exclusions

Hospice."Has Hospice"
or exists "Total Knee Arthroplasty with 2 or More Lower Body Fractures"
or exists "Dementia Diagnosis"

▲ Hospice.Has Hospice

exists (["Encounter, Performed": "Encounter Inpatient"] DischargeHospice
where (DischargeHospice.dischargeDisposition as Code ~ "Discharge to home for hospice care (procedure)"
or DischargeHospice.dischargeDisposition as Code ~ "Discharge to healthcare facility for hospice care (procedure)"
)
and DischargeHospice.relevantPeriod ends during "Measurement Period"
)
or exists (["Intervention, Order": "Hospice care ambulatory"] HospiceOrder
where HospiceOrder.authorDatetime during "Measurement Period"
)
or exists (["Intervention, Performed": "Hospice care ambulatory"] HospicePerformed
where HospicePerformed.relevantPeriod overlaps "Measurement Period"
)

▲ Initial Population

exists ("Total Knee Arthroplasty Procedure")
and exists ("Qualifying Encounters")
and exists (["Patient Characteristic Birthdate"] Birthdate
where Global."CalendarAgeInYearsAt"(Birthdate.birthDatetime, start of "Measurement Period")>= 19
)

▲ Knee Assessment 270 to 365 Days after Total Knee Arthroplasty Procedure

"Completed Assessment" KneeAssessment
with "Total Knee Arthroplasty with Initial Assessment" TotalKnee
such that KneeAssessment.authorDatetime 270 days or more after day of end of TotalKnee.relevantPeriod
and KneeAssessment.authorDatetime 365 days or less after day of end of TotalKnee.relevantPeriod

▲ KOOS Total Assessment

["Assessment, Performed": "Quality of life score [KOOS]"] KOOSLifeQuality
with ["Assessment, Performed": "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Sport Recreation Score"] KOOSSport
such that KOOSLifeQuality.authorDatetime same day as KOOSSport.authorDatetime
and KOOSSport.result is not null
with ["Assessment, Performed": "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Activities of Daily Living Score"] KOOSActivityScore
such that KOOSLifeQuality.authorDatetime same day as KOOSActivityScore.authorDatetime
and KOOSActivityScore.result is not null
with ["Assessment, Performed": "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Symptoms Score"] KOOSSymptoms
such that KOOSLifeQuality.authorDatetime same day as KOOSSymptoms.authorDatetime
and KOOSSymptoms.result is not null
with ["Assessment, Performed": "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Pain Score"] KOOSPain
such that KOOSLifeQuality.authorDatetime same day as KOOSPain.authorDatetime
and KOOSPain.result is not null
where KOOSLifeQuality.result is not null

▲ Numerator

exists ("Total Knee Arthroplasty with Initial Assessment")
and exists ("Knee Assessment 270 to 365 Days after Total Knee Arthroplasty Procedure")

▲ PROMIS10 Total Assessment

["Assessment, Performed": "PROMIS 10 Global Mental Health Score"] Promis10MentalScore
with ["Assessment, Performed": "PROMIS 10 Global Physical Health Score"] Promis10PhysicalScore
such that Promis10MentalScore.authorDatetime same day as Promis10PhysicalScore.authorDatetime
and Promis10PhysicalScore.result is not null
where Promis10MentalScore.result is not null

▲ Qualifying Encounters

(["Encounter, Performed": "Outpatient Consultation"]
union ["Encounter, Performed": "Office Visit"]
union ["Encounter, Performed": "Postoperative follow-up visit, normally included in the surgical package, to indicate that an evaluation and management service was performed during a postoperative period for a reason(s) related to the original procedure"]) QualifyingEncounter
where QualifyingEncounter.relevantPeriod during "Measurement Period"

▲ SDE Ethnicity

["Patient Characteristic Ethnicity": "Ethnicity"]

▲ SDE Payer

["Patient Characteristic Payer": "Payer"]

▲ SDE Race

["Patient Characteristic Race": "Race"]

▲ SDE Sex

["Patient Characteristic Sex": "ONC Administrative Sex"]

▲ Total Knee Arthroplasty Procedure["Procedure, Performed": "Primary TKA Procedure"] TKAProcedure
where TKAProcedure.relevantPeriod starts 12 months or less before start of "Measurement Period"**▲ Total Knee Arthroplasty with 2 or More Lower Body Fractures**"Total Knee Arthroplasty Procedure" TKAProcedure
where Count(["Diagnosis": "Fracture - Lower Body"] LowerBodyFracture
where LowerBodyFracture.prevalencePeriod starts less than 1 day on or before TKAProcedure.relevantPeriod
)>= 2**▲ Total Knee Arthroplasty with Initial Assessment**"Total Knee Arthroplasty Procedure" TotalKnee
with "Completed Assessment" KneeAssessment
such that TotalKnee.relevantPeriod starts 90 days or less on or after KneeAssessment.authorDatetime**▲ VR12 Total Assessment**["Assessment, Performed": "VR12 Mental Component T Score"] VR12MentalScore
with ["Assessment, Performed": "VR12 Physical Component T Score"] VR12PhysicalScore
such that VR12MentalScore.authorDatetime same day as VR12PhysicalScore.authorDatetime
and VR12PhysicalScore.result is not null
where VR12MentalScore.result is not null**Functions****▲ Global.CalendarAgeInYearsAt(BirthDateTime DateTime, AsOf DateTime)**

years between ToDate(BirthDateTime)and ToDate(AsOf)

▲ Global.ToDate(Value DateTime)

DateTime(year from Value, month from Value, day from Value, 0, 0, 0, 0, timezone from Value)

Terminology

- codesystem "CPT" using "2.16.840.1.113883.6.12 version 2018"
- codesystem "LOINC" using "2.16.840.1.113883.6.1 version 2.63"
- 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)"
- code "Postoperative follow-up visit, normally included in the surgical package, to indicate that an evaluation and management service was performed during a postoperative period for a reason(s) related to the original procedure" using "CPT version 2018 Code (99024)"
- code "Quality of life score [KOOS]" using "LOINC version 2.63 Code (72098-7)"
- code "Severe dementia (disorder)" using "SNOMEDCT version 2017-09 Code (428351000124105)"
- valueSet "Encounter Inpatient" using "2.16.840.1.113883.3.666.5.307"
- valueSet "Ethnicity" using "2.16.840.1.114222.4.11.837"
- valueSet "Fracture - Lower Body" using "2.16.840.1.113883.3.464.1003.113.12.1037"
- valueSet "Hospice care ambulatory" using "2.16.840.1.113762.1.4.1108.15"
- valueSet "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Activities of Daily Living Score" using "2.16.840.1.113883.3.464.1003.118.12.1153"
- valueSet "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Pain Score" using "2.16.840.1.113883.3.464.1003.118.12.1180"
- valueSet "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Sport Recreation Score" using "2.16.840.1.113883.3.464.1003.118.12.1152"
- valueSet "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Symptoms Score" using "2.16.840.1.113883.3.464.1003.118.12.1182"
- valueSet "Knee Injury and Osteoarthritis Outcome Score for Joint Replacement [KOOSJR]" using "2.16.840.1.113883.3.464.1003.118.12.1218"
- 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 "Outpatient Consultation" using "2.16.840.1.113883.3.464.1003.101.12.1008"
- valueSet "Payer" using "2.16.840.1.114222.4.11.3591"
- valueSet "Primary TKA Procedure" using "2.16.840.1.113883.3.464.1003.198.12.1007"
- valueSet "PROMIS 10 Global Mental Health Score" using "2.16.840.1.113883.3.464.1003.118.12.1138"
- valueSet "PROMIS 10 Global Physical Health Score" using "2.16.840.1.113883.3.464.1003.118.12.1139"
- valueSet "Race" using "2.16.840.1.114222.4.11.836"
- valueSet "VR12 Mental Component T Score" using "2.16.840.1.113883.3.464.1003.118.12.1177"
- valueSet "VR12 Physical Component T Score" using "2.16.840.1.113883.3.464.1003.118.12.1176"

Data Criteria (QDM Data Elements)

- "Assessment, Performed: Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Activities of Daily Living Score" using "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Activities of Daily Living Score (2.16.840.1.113883.3.464.1003.118.12.1153)"
- "Assessment, Performed: Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Pain Score" using "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Pain Score (2.16.840.1.113883.3.464.1003.118.12.1180)"
- "Assessment, Performed: Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Sport Recreation Score" using "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Sport Recreation Score (2.16.840.1.113883.3.464.1003.118.12.1152)"
- "Assessment, Performed: Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Symptoms Score" using "Knee Dysfunction and Osteoarthritis Outcome Score [KOOS] Symptoms Score (2.16.840.1.113883.3.464.1003.118.12.1182)"
- "Assessment, Performed: Knee Injury and Osteoarthritis Outcome Score for Joint Replacement [KOOSJR]" using "Knee Injury and Osteoarthritis Outcome Score for Joint Replacement [KOOSJR] (2.16.840.1.113883.3.464.1003.118.12.1218)"
- "Assessment, Performed: PROMIS 10 Global Mental Health Score" using "PROMIS 10 Global Mental Health Score (2.16.840.1.113883.3.464.1003.118.12.1138)"
- "Assessment, Performed: PROMIS 10 Global Physical Health Score" using "PROMIS 10 Global Physical Health Score (2.16.840.1.113883.3.464.1003.118.12.1139)"
- "Assessment, Performed: VR12 Mental Component T Score" using "VR12 Mental Component T Score (2.16.840.1.113883.3.464.1003.118.12.1177)"
- "Assessment, Performed: VR12 Physical Component T Score" using "VR12 Physical Component T Score (2.16.840.1.113883.3.464.1003.118.12.1176)"
- "Diagnosis: Fracture - Lower Body" using "Fracture - Lower Body (2.16.840.1.113883.3.464.1003.113.12.1037)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "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)"
- "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 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: Primary TKA Procedure" using "Primary TKA Procedure (2.16.840.1.113883.3.464.1003.198.12.1007)"
- "Assessment, Performed: Quality of life score [KOOS]" using "Quality of life score [KOOS] (LOINC version 2.63 Code 72098-7)"
- "Diagnosis: Severe dementia (disorder)" using "Severe dementia (disorder) (SNOMEDCT version 2017-09 Code 428351000124105)"
- "Encounter, Performed: Postoperative follow-up visit, normally included in the surgical package, to indicate that an evaluation and management service was performed during a postoperative period for a reason(s) related to the original procedure" using "Postoperative follow-up visit, normally included in the surgical package, to indicate that an evaluation and management service was performed during a postoperative period for a reason(s) related to the original procedure (CPT version 2018 Code 99024)"

Supplemental Data Elements**▲ SDE Ethnicity**

["Patient Characteristic Ethnicity": "Ethnicity"]

▲ SDE Payer

["Patient Characteristic Payer": "Payer"]

▲ SDE Race

["Patient Characteristic Race": "Race"]

▲ SDE Sex

["Patient Characteristic Sex": "ONC Administrative Sex"]

Risk Adjustment Variables

None

Measure Set	TBD
-------------	-----