eCQM Title	Functional Status Assessments for Congestive Heart Failure		
eCQM Identifier (Measure Authoring Tool)	90	eCQM Version number	8.3.000
NQF Number	Not Applicable	GUID	bb9b8ef7-0354-40e0-bec7-d6891b7df519
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 with congestive heart failure who completed initial and follow-up patient-reported functional status assessments		
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Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	Patients living with congestive heart failure (CHF) often have poor functional status and health-related quality of life, which declines as the disease progresses (Allen et al. 2012). In addition, their care is often complicated by multiple comorbidities. To assist in managing these complex patients, the American College of Cardiology Foundation and American Heart Association recommend collecting initial and repeat assessments of a patient's function and ability to complete desired activities of daily living (Hunt et al. 2009). The American Heart Association has also released scientific statements emphasizing the collection of patient-reported health status (for example, functional limitations, symptom burden, quality of life) from CHF patients as an important means of establishing a dynamic conversation between patient and provider regarding care goals and the patient's priorities (Allen et al. 2012; Rumsfeld et al. 2013).		
Clinical Recommendation Statement	American College of Cardiology Foundation/American Heart Association (2013): Every patient with HF (heart failure) should have a clear, detailed, and evidence-based plan of care that ensures the achievement of GDMT (guideline-directed medical therapy) goals, effective management of comorbid conditions, timely follow-up with the health care team, appropriate dietary and physical activities, and compliance with secondary prevention guidelines for cardiovascular disease. This plan of care should be updated regularly and made readily available to all members of each patient's health care team. (Class of recommendation: I; Level of evidence: C) Level C: Only consensus opinion of experts, case studies, or standard of care Class I: Procedure/treatment should be performed/administered		
Improvement Notation	A higher score indicates better quality		
Reference	Allen, L.A., L.W. Stevenson, K.L. Grady, et al. "Decision Making in Advanced Heart Failure: A Scientific Statement from the American Heart Association." Circulation, vol. 125, 2012, pp. 1928-1952. doi: 10.1161/CIR.0b013e31824f2173.		
Reference	Hunt, S.A., W.T. Abraham, et al. "2009 Focused Update Incorporated into the ACC/AHA 2005 Guidelines for the Diagnosis and Management of Heart Failure in Adults." Circulation, vol. 119, 2009, pp. e391-e479. doi: 10.1161/CIRCULATIONAHA.109.192065.		
Reference	Rumsfeld, J.S., K.P. Alexander, D.C. Goff, et al. "Cardiovascular Health: The Importance of Measuring Patient-Reported Health Status: A Scientific Statement from the American Heart Association." Circulation, vol. 127, no. 22, 2013, pp. 2233-2249. doi: 10.1161/CIR.0b013e3182949a2e.		
Reference	American College of Cardiology Foundation/American Heart Association. "Guideline for the Management of Heart Failure: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines." Circulation, vol. 128, 2013, pp. e240-e327. doi: 10.1161/CIR.0b013e31829e8776.		
Definition	None		
Guidance	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. Initial Functional Status Assessment (FSA) and Encounter: The initial FSA is the first FSA during the measurement year that also occurs two weeks before or during the first encounter in the first 185 days of the measurement year. Follow-up FSA: The follow-up FSA must be completed at least 30 days but no more than 180 days after the initial FSA. The same FSA instrument must be used for the initial and follow-up assessment.		
Transmission Format	TBD		
Initial Population	Patients 18 years of age and older who had two outpatient encounters during the measurement year and a diagnosis of congestive heart failure		
Denominator	Equals Initial Population		
Denominator Exclusions	Exclude patients with severe cognitive impairment that overlaps the measurement period. Exclude patients whose hospice care overlaps the measurement period.		
Numerator	Patients with patient-reported functional status assessment results (ie, VR-12; VR-36; KCCQ; PROMIS-10 Global Health, PROMIS-29) present in the EHR two weeks before or during the initial FSA encounter and results for the follow-up FSA at least 30 days but no more than 180 days after the initial functional status assessment		
Numerator Exclusions	Not Applicable		
Denominator Exceptions	None		
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex		

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Population Criteria

◢ Initial Population

```
exists ( ["Patient Characteristic Birthdate"] Birthdate
        where Global."CalendarAgeInYearsAt"(Birthdate.birthDatetime, start of "Measurement Period")>= 18
)
    and exists ( ["Diagnosis": "Heart Failure"] HeartFailure
            where HeartFailure.prevalencePeriod overlaps "Measurement Period"
    )
    and exists ( "Congestive Heart Failure Followup Encounter" )
```

◢ Denominator

```
"Initial Population"
```

◢ Denominator Exclusions

```
Hospice."Has Hospice"
    or exists ( ["Diagnosis": "Severe Dementia"] Dementia
            where Dementia.prevalencePeriod overlaps "Measurement Period"
    )
```

◢ Numerator

```
exists ( "Initial Congestive Heart Failure Functional Assessment" )
    and exists ( "Follow-up Congestive Heart Failure Functional Assessment" )
```

◢ Numerator Exclusions

None

◢ Denominator Exceptions

None

◢ Stratification

None

Definitions

◢ Complete Assessment

```
"PROMIS29 Total Assessment"
    union "KCCQ Total Assessment"
    union "VR12 Total Assessment"
    union "VR36 Total Assessment"
    union "PROMIS10 Total Assessment"
```

◢ Congestive Heart Failure Followup Encounter

```
"Qualifying Encounters" OfficeVisit
    with "Initial Encounter" CHFInitial
        such that OfficeVisit.relevantPeriod starts 30 days or more after day of end of CHFInitial.relevantPeriod
            and OfficeVisit.relevantPeriod starts 180 days or less after day of end of CHFInitial.relevantPeriod
```

◢ Denominator

```
"Initial Population"
```

◢ Denominator Exclusions

```
Hospice."Has Hospice"
    or exists ( ["Diagnosis": "Severe Dementia"] Dementia
            where Dementia.prevalencePeriod overlaps "Measurement Period"
    )
```

◢ Follow-up Congestive Heart Failure Functional Assessment

```
"Complete Assessment" FollowupHeartFailureFSA
    with "Initial Congestive Heart Failure Functional Assessment" InitialHeartFailureFSA
        such that FollowupHeartFailureFSA.authorDatetime 30 days or more after day of InitialHeartFailureFSA.authorDatetime
            and FollowupHeartFailureFSA.authorDatetime 180 days or less after day of InitialHeartFailureFSA.authorDatetime
            and FollowupHeartFailureFSA.result is not null
```

◢ 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 Congestive Heart Failure Functional Assessment

```
"Complete Assessment" HeartFailureFSA
    with "Initial Encounter" CHFInitial
        such that ( HeartFailureFSA.authorDatetime 14 days or less on or before day of end of CHFInitial.relevantPeriod )
            and HeartFailureFSA.result is not null
```

◢ Initial Encounter

```
First("Qualifying Encounters" QualifyingEncounter
        where QualifyingEncounter.relevantPeriod ends 185 days or less after start of "Measurement Period"
        sort by start of relevantPeriod
)
```

◢ Initial Population

```
exists ( ["Patient Characteristic Birthdate"] Birthdate
        where Global."CalendarAgeInYearsAt"(Birthdate.birthDatetime, start of "Measurement Period")>= 18
)
    and exists ( ["Diagnosis": "Heart Failure"] HeartFailure
            where HeartFailure.prevalencePeriod overlaps "Measurement Period"
    )
    and exists ( "Congestive Heart Failure Followup Encounter" )
```

◢ KCCQ Total Assessment

```
["Assessment, Performed": "Quality of life score [KCCQ]"] KCCQLifeQuality
    with ["Assessment, Performed": "Clinical summary score [KCCQ]"] KCCQClinical
        such that KCCQLifeQuality.authorDatetime same day as KCCQClinical.authorDatetime
```

```
            and KCCQClinical.result is not null
    with ["Assessment, Performed": "KCCQ Self Efficacy Score"] KCCQSelfEfficacy
        such that KCCQLifeQuality.authorDatetime same day as KCCQSelfEfficacy.authorDatetime
            and KCCQSelfEfficacy.result is not null
    with ["Assessment, Performed": "KCCQ Total Symptom Score"] KCCQSymptoms
        such that KCCQLifeQuality.authorDatetime same day as KCCQSymptoms.authorDatetime
            and KCCQSymptoms.result is not null
    with ["Assessment, Performed": "KCCQ Physical Limitation Score"] KCCQPhysicalLimits
        such that KCCQLifeQuality.authorDatetime same day as KCCQPhysicalLimits.authorDatetime
            and KCCQPhysicalLimits.result is not null
    with ["Assessment, Performed": "KCCQ Social Limitation Score"] KCCQSocialLimits
        such that KCCQLifeQuality.authorDatetime same day as KCCQSocialLimits.authorDatetime
            and KCCQSocialLimits.result is not null
    where KCCQLifeQuality.result is not null
```

◢ Numerator

```
exists ( "Initial Congestive Heart Failure Functional Assessment" )
    and exists ( "Follow-up Congestive Heart Failure Functional Assessment" )
```

◢ 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
```

◢ PROMIS29 Total Assessment

```
["Assessment, Performed": "PROMIS 29 Sleep Disturbance Score"] Promis29Sleep
    with ["Assessment, Performed": "PROMIS 29 Social Roles Score"] Promis29SocialRoles
        such that Promis29Sleep.authorDatetime same day as Promis29SocialRoles.authorDatetime
            and Promis29SocialRoles.result is not null
    with ["Assessment, Performed": "PROMIS 29 Physical Function Score"] Promis29Physical
        such that Promis29Sleep.authorDatetime same day as Promis29Physical.authorDatetime
            and Promis29Physical.result is not null
    with ["Assessment, Performed": "PROMIS 29 Pain Interference Score"] Promis29Pain
        such that Promis29Sleep.authorDatetime same day as Promis29Pain.authorDatetime
            and Promis29Pain.result is not null
    with ["Assessment, Performed": "PROMIS 29 Fatigue Score"] Promis29Fatigue
        such that Promis29Sleep.authorDatetime same day as Promis29Fatigue.authorDatetime
            and Promis29Fatigue.result is not null
    with ["Assessment, Performed": "PROMIS 29 Depression Score"] Promis29Depression
        such that Promis29Sleep.authorDatetime same day as Promis29Depression.authorDatetime
            and Promis29Depression.result is not null
    with ["Assessment, Performed": "PROMIS 29 Anxiety Score"] Promis29Anxiety
        such that Promis29Sleep.authorDatetime same day as Promis29Anxiety.authorDatetime
            and Promis29Anxiety.result is not null
    where Promis29Sleep.result is not null
```

◢ Qualifying Encounters

```
["Encounter, Performed": "Office Visit"] ValidEncounter
    where ValidEncounter.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"]
```

◢ 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
```

◢ VR36 Total Assessment

```
["Assessment, Performed": "VR 36 Mental Component Summary (MCS) Score"] VR36MentalScore
    with ["Assessment, Performed": "VR 36 Physical Component Summary (PCS) Score"] VR36PhysicalScore
        such that VR36MentalScore.authorDatetime same day as VR36PhysicalScore.authorDatetime
            and VR36PhysicalScore.result is not null
    where VR36MentalScore.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 "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 "Clinical summary score [KCCQ]" using "LOINC version 2.63 Code (72188-6)"
- 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 "Quality of life score [KCCQ]" using "LOINC version 2.63 Code (72189-4)"
- 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 "Heart Failure" using "2.16.840.1.113883.3.526.3.376"
- valueset "Hospice care ambulatory" using "2.16.840.1.113762.1.4.1108.15"
- valueset "KCCQ Physical Limitation Score" using "2.16.840.1.113883.3.464.1003.118.12.1220"
- valueset "KCCQ Self Efficacy Score" using "2.16.840.1.113883.3.464.1003.118.12.1221"
- valueset "KCCQ Social Limitation Score" using "2.16.840.1.113883.3.464.1003.118.12.1222"
- valueset "KCCQ Total Symptom Score" using "2.16.840.1.113883.3.464.1003.118.12.1223"
- 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 "Payer" using "2.16.840.1.114222.4.11.3591"

- 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 "PROMIS 29 Anxiety Score" using "2.16.840.1.113883.3.464.1003.118.12.1216"
- valueset "PROMIS 29 Depression Score" using "2.16.840.1.113883.3.464.1003.118.12.1215"
- valueset "PROMIS 29 Fatigue Score" using "2.16.840.1.113883.3.464.1003.118.12.1214"
- valueset "PROMIS 29 Pain Interference Score" using "2.16.840.1.113883.3.464.1003.118.12.1213"
- valueset "PROMIS 29 Physical Function Score" using "2.16.840.1.113883.3.464.1003.118.12.1212"
- valueset "PROMIS 29 Sleep Disturbance Score" using "2.16.840.1.113883.3.464.1003.118.12.1211"
- valueset "PROMIS 29 Social Roles Score" using "2.16.840.1.113883.3.464.1003.118.12.1217"
- valueset "Race" using "2.16.840.1.114222.4.11.836"
- valueset "Severe Dementia" using "2.16.840.1.113883.3.526.3.1025"
- valueset "VR 36 Mental Component Summary (MCS) Score" using "2.16.840.1.113883.3.464.1003.118.12.1225"
- valueset "VR 36 Physical Component Summary (PCS) Score" using "2.16.840.1.113883.3.464.1003.118.12.1226"
- 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: KCCQ Physical Limitation Score" using "KCCQ Physical Limitation Score (2.16.840.1.113883.3.464.1003.118.12.1220)"
- "Assessment, Performed: KCCQ Self Efficacy Score" using "KCCQ Self Efficacy Score (2.16.840.1.113883.3.464.1003.118.12.1221)"
- "Assessment, Performed: KCCQ Social Limitation Score" using "KCCQ Social Limitation Score (2.16.840.1.113883.3.464.1003.118.12.1222)"
- "Assessment, Performed: KCCQ Total Symptom Score" using "KCCQ Total Symptom Score (2.16.840.1.113883.3.464.1003.118.12.1223)"
- "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: PROMIS 29 Anxiety Score" using "PROMIS 29 Anxiety Score (2.16.840.1.113883.3.464.1003.118.12.1216)"
- "Assessment, Performed: PROMIS 29 Depression Score" using "PROMIS 29 Depression Score (2.16.840.1.113883.3.464.1003.118.12.1215)"
- "Assessment, Performed: PROMIS 29 Fatigue Score" using "PROMIS 29 Fatigue Score (2.16.840.1.113883.3.464.1003.118.12.1214)"
- "Assessment, Performed: PROMIS 29 Pain Interference Score" using "PROMIS 29 Pain Interference Score (2.16.840.1.113883.3.464.1003.118.12.1213)"
- "Assessment, Performed: PROMIS 29 Physical Function Score" using "PROMIS 29 Physical Function Score (2.16.840.1.113883.3.464.1003.118.12.1212)"
- "Assessment, Performed: PROMIS 29 Sleep Disturbance Score" using "PROMIS 29 Sleep Disturbance Score (2.16.840.1.113883.3.464.1003.118.12.1211)"
- "Assessment, Performed: PROMIS 29 Social Roles Score" using "PROMIS 29 Social Roles Score (2.16.840.1.113883.3.464.1003.118.12.1217)"
- "Assessment, Performed: VR 36 Mental Component Summary (MCS) Score" using "VR 36 Mental Component Summary (MCS) Score (2.16.840.1.113883.3.464.1003.118.12.1225)"
- "Assessment, Performed: VR 36 Physical Component Summary (PCS) Score" using "VR 36 Physical Component Summary (PCS) Score (2.16.840.1.113883.3.464.1003.118.12.1226)"
- "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: Heart Failure" using "Heart Failure (2.16.840.1.113883.3.526.3.376)"
- "Diagnosis: Severe Dementia" using "Severe Dementia (2.16.840.1.113883.3.526.3.1025)"
- "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)"
- "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)"
- "Assessment, Performed: Clinical summary score [KCCQ]" using "Clinical summary score [KCCQ] (LOINC version 2.63 Code 72188-6)"
- "Assessment, Performed: Quality of life score [KCCQ]" using "Quality of life score [KCCQ] (LOINC version 2.63 Code 72189-4)"

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	None