

**Quality ID #5 (NQF 0081): Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) – National Quality Strategy Domain: Effective Clinical Care**

**2018 OPTIONS FOR INDIVIDUAL MEASURES:**  
**REGISTRY ONLY**

**MEASURE TYPE:**  
Process

**DESCRIPTION:**

Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB therapy either within a 12 month period when seen in the outpatient setting OR at each hospital discharge

**INSTRUCTIONS:**

This measure is to be submitted for all heart failure patients a minimum of **once per performance period** when seen in the outpatient setting AND submitted at **each** hospital discharge (99238\* and 99239\*) during the performance period.

\*NOTE: When submitting CPT code 99238 and 99239, it is recommended the measure be submitted each time the code is submitted for hospital discharge.

This measure is intended to reflect the quality of services provided for patients with HF and decreased left ventricular systolic function. This measure may be submitted by eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding. Only patients who had at least two denominator eligible visits during the performance period will be counted for Submission Criteria 1.

**Measure Submission:**

The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-submissions; however, these codes may be submitted for those registries that utilize claims data.

**THERE ARE TWO SUBMISSION CRITERIA FOR THIS MEASURE:**

- 1) Patients who are 18 years and older with a diagnosis of HF with a current or prior LVEF < 40% seen in the outpatient setting with two denominator eligible visits

**OR**

- 2) Patients who are 18 years and older with a diagnosis of HF with a current or prior LVEF < 40% and discharged from hospital

**SUBMISSION CRITERIA 1: ALL PATIENTS WITH A DIAGNOSIS OF HF ASSESSED DURING AN OUTPATIENT ENCOUNTER**

**DENOMINATOR (SUBMISSION CRITERIA 1):**

All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%

DENOMINATOR NOTE: LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction. The LVSD may be determined by quantitative or qualitative assessment, which may be current or historical. Examples of a quantitative or qualitative assessment may include an echocardiogram:

- 1) that provides a numerical value of LVSD or 2) that uses descriptive terms such as moderately or severely

depressed left ventricular systolic function. Any current or prior ejection fraction study documenting LVSD can be used to identify patients.

To meet the denominator criteria, a patient must have an active diagnosis of heart failure at the time of the encounter which is used to qualify for the denominator and evaluate the numerator.

The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the heart failure diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action.

\*Signifies that this CPT Category I code is a non-covered service under the Medicare Part B Physician Fee Schedule (PFS). These non-covered services should be counted in the denominator population for registry-based measures.

**Denominator Criteria (Eligible Cases) 1:**

Patients aged  $\geq 18$  years on date of encounter

**AND**

**Diagnosis for heart failure (ICD-10-CM):** I11.0, I13.0, I13.2, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9

**AND**

**Patient encounter during performance period – to be used for numerator evaluation (CPT):** 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241\*, 99242\*, 99243\*, 99244\*, 99245\*, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

**WITHOUT**

Telehealth Modifier: GQ, GT, 95, POS 02

**AND**

**At least one additional patient encounter during performance period (CPT):** 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241\*, 99242\*, 99243\*, 99244\*, 99245\*, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

**WITHOUT**

Telehealth Modifier: GQ, GT, 95, POS 02

**AND**

**Left ventricular ejection fraction (LVEF) less than 40% or documentation of moderately or severely depressed left ventricular systolic function:** 3021F

**NUMERATOR (SUBMISSION CRITERIA 1):**

Patients who were prescribed ACE inhibitor or ARB therapy within a 12 month period when seen in the outpatient setting

**Definition:**

**Prescribed – Outpatient setting:** prescription given to the patient for ACE inhibitor or ARB therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB therapy as documented in current medication list.

**NUMERATOR NOTE:** To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of heart failure is documented. Eligible clinicians who have given a prescription to the patient for or whose patient is currently taking a combination medication therapy, which contains either an angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) (e.g., angiotensin receptor neprilysin inhibitor [ARNI, sacubitril/valsartan], ACEI+diuretic,

ARB+diuretic, ACEI+calcium channel blocker) would meet performance for this measure. Denominator Exception(s) are determined on the date of the denominator eligible encounter.

**Numerator Options:**

Performance Met:

Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) therapy prescribed or currently being taken **(4010F)**

**OR**

Denominator Exception:

Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons) **(4010F with 1P)**

**OR**

Denominator Exception:

Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons) **(4010F with 2P)**

**OR**

Denominator Exception:

Documentation of system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, other system reasons) **(4010F with 3P)**

**OR**

Performance Not Met:

Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy was not prescribed, reason not otherwise specified **(4010F with 8P)**

**OR**

**SUBMISSION CRITERIA 2: ALL PATIENTS WITH A DIAGNOSIS OF HF AND DISCHARGED FROM HOSPITAL**

**DENOMINATOR (SUBMISSION CRITERIA 2):**

All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%

DENOMINATOR NOTE: LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction. The LVSD may be determined by quantitative or qualitative assessment, which may be current or historical. Examples of a quantitative or qualitative assessment may include an echocardiogram: 1) that provides a numerical value of LVSD or 2) that uses descriptive terms such as moderately or severely depressed left ventricular systolic function. Any current or prior ejection fraction study documenting LVSD can be used to identify patients.

**Denominator Criteria (Eligible Cases) 2:**

Patients aged ≥ 18 years on date of encounter

**AND**

Diagnosis for heart failure (ICD-10-CM): I11.0, I13.0, I13.2, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9

**AND**

Patient encounter during performance period (CPT): 99238, 99239

**AND**

Left ventricular ejection fraction (LVEF) less than 40% or documentation of moderately or severely depressed left ventricular systolic function: 3021F

**NUMERATOR (SUBMISSION CRITERIA 2):**

Patients who were prescribed ACE inhibitor or ARB therapy at hospital discharge

**Definition:**

**Prescribed – Inpatient setting:** prescription given to the patient for ACE inhibitor or ARB therapy at discharge OR ACE inhibitor or ARB therapy to be continued after discharge as documented in the discharge medication list.

**NUMERATOR NOTE:** To meet the intent of the measure, the numerator quality action must be performed at the each denominator eligible discharge. Eligible clinicians who have given a prescription to the patient for or whose patient is currently taking a combination medication therapy, which contains either an angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) (e.g., angiotensin receptor neprilysin inhibitor [ARNI, sacubitril/valsartan], ACEI+diuretic, ARB+diuretic, ACEI+calcium channel blocker) would meet performance for this measure. Denominator Exception(s) are determined on the date of the denominator eligible encounter.

**Numerator Options:**

Performance Met:	Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) therapy prescribed or currently being taken (4010F)
<b><u>OR</u></b>	
Denominator Exception:	Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons) (4010F with 1P)
<b><u>OR</u></b>	
Denominator Exception:	Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons) (4010F with 2P)
<b><u>OR</u></b>	
Denominator Exception:	Documentation of system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, other system reasons) (4010F with 3P)
<b><u>OR</u></b>	
Performance Not Met:	Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy was not prescribed, reason not otherwise specified (4010F with 8P)

**RATIONALE:**

In the absence of contraindications, ACE inhibitors or ARBs are recommended for all patients with symptoms of heart failure and reduced left ventricular systolic function. ACE inhibitors remain the first choice for inhibition of the renin-angiotensin system in chronic heart failure, but ARBs can now be considered a reasonable alternative. Both pharmacologic agents have been shown to decrease the risk of death and hospitalization. Additional benefits of ACE

inhibitors include the alleviation of symptoms and the improvement of clinical status and overall sense of well-being of patients with heart failure.

#### **CLINICAL RECOMMENDATION STATEMENTS:**

ACE inhibitors are recommended in patients with HFrEF [heart failure with reduced ejection fraction] and current or prior symptoms, unless contraindicated, to reduce morbidity and mortality. (Class I, Level of Evidence: A) (ACCF/AHA, 2013)

Treatment with an ACE inhibitor should be initiated at low doses [see excerpt from guideline table below], followed by gradual dose increments if lower doses have been well tolerated. Clinicians should attempt to use doses that have been shown to reduce the risk of cardiovascular events in clinical trials. If these target doses of an ACE inhibitor cannot be used or are poorly tolerated, intermediate doses should be used with the expectation that there are likely to be only small differences in efficacy between low and high doses. Abrupt withdrawal of treatment with an ACE inhibitor can lead to clinical deterioration and should be avoided. (ACCF/AHA, 2013)

Drugs Commonly Used for Stage C HFrEF (abbreviated to align with focus of measure to include only ACE inhibitors and ARB therapy)

Table 1 - Drugs Commonly Used for Stage C HFrEF. Rows 3 - 10 define ACE Inhibitors. Rows 12-14 define ARB Therapy.

Drug	Initial Daily Dose(s)	Maximum Doses(s)	Mean Doses Achieved in Clinical Trials
ACE Inhibitors			
Captopril	6.25 mg 3 times	50 mg 3 times	122.7 mg/d
Enalapril	2.5 mg twice	10 to 20 mg twice	16.6 mg/d
Fosinopril	5 to 10 mg once	40 mg once	N/A
Lisinopril	2.5 to 5 mg once	20 to 40 mg once	32.5 to 35.0 mg/d
Perindopril	2 mg once	8 to 16 mg once	N/A
Quinapril	5 mg twice	20 mg twice	N/A
Ramipril	1.25 to 2.5 mg once	10 mg once	N/A
Trandolapril	1 mg once	4 mg once	N/A
Angiotensin Receptor Blockers			
Candesartan	4 to 8 mg once	32 mg once	24 mg/d
Losartan	25 to 50 mg once	50 to 150 mg once	129 mg/d
Valsartan	20 to 40 mg twice	160 mg twice	254 mg/d

ARBs are recommended in patients with HFrEF with current or prior symptoms who are ACE inhibitor intolerant, unless contraindicated, to reduce morbidity and mortality. (Class I, Level of Evidence: A) (ACCF/AHA, 2013)

ARBs are reasonable to reduce morbidity and mortality as alternatives to ACE inhibitors as first-line therapy for patients with HFrEF, especially for patients already taking ARBs for other indications, unless contraindicated. (Class IIa, Level of Evidence: A) (ACCF/AHA, 2013)

Addition of an ARB may be considered in persistently symptomatic patients with HFrEF who are already being treated with an ACE inhibitor and a beta blocker in whom an aldosterone antagonist is not indicated or tolerated. (Class IIb, Level of Evidence: A) (ACCF/AHA, 2013)

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)

**COPYRIGHT:**

The Measures are not clinical guidelines, do not establish a standard of medical care, and have not been tested for all potential applications.

The Measures, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, eg, use by health care providers in connection with their practices. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain.

Commercial uses of the Measures require a license agreement between the user and the American Medical Association (AMA), American College of Cardiology (ACC) or the American Heart Association (AHA). Neither the AMA, nor ACC, nor AHA, nor the PCPI® Foundation (PCPI®), nor their members shall be responsible for any use of the Measures.

AMA and PCPI encourage use of the Measures by other health care professionals, where appropriate.

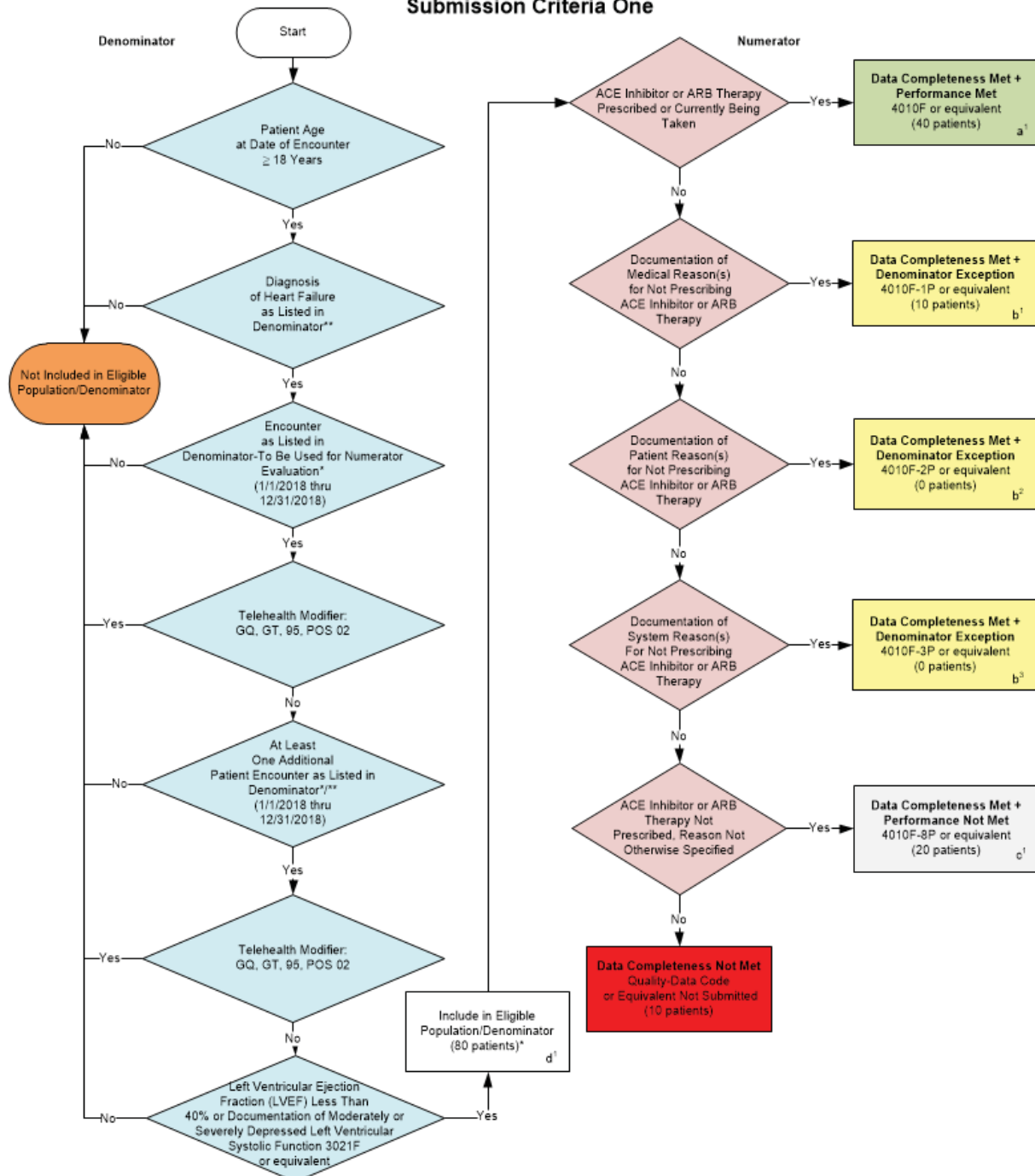
**THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.**

© 2017 American College of Cardiology, American Heart Association and American Medical Association. All Rights Reserved.

Limited proprietary coding is contained in the Measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. The AMA, ACC, AHA, the PCPI and its members and former members of the AMA-PCPI disclaim all liability for use or accuracy of any Current Procedural Terminology (CPT®) or other coding contained in the specifications.

CPT® contained in the Measure specifications is copyright 2004-2017 American Medical Association. LOINC® is copyright 2004-2017 Regenstrief Institute, Inc. This material contains SNOMED CLINICAL TERMS (SNOMED CT®) copyright 2004-2017 International Health Terminology Standards Development Organisation (IHTSDO). ICD-10 is copyright 2017 World Health Organization. All Rights Reserved.

**2018 Registry Flow for Quality ID #5 NQF #0081:  
Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor  
Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)  
Submission Criteria One**



\*This measure is to be submitted at two different frequencies, depending upon the clinical setting. This measure is to be submitted for a minimum of **once per performance period** when **seen in the outpatient setting AND submitted at each hospital discharge** (99238 and 99239) during the performance period. Please reference the Submission Criteria Two for Hospital Discharge Setting Flow.

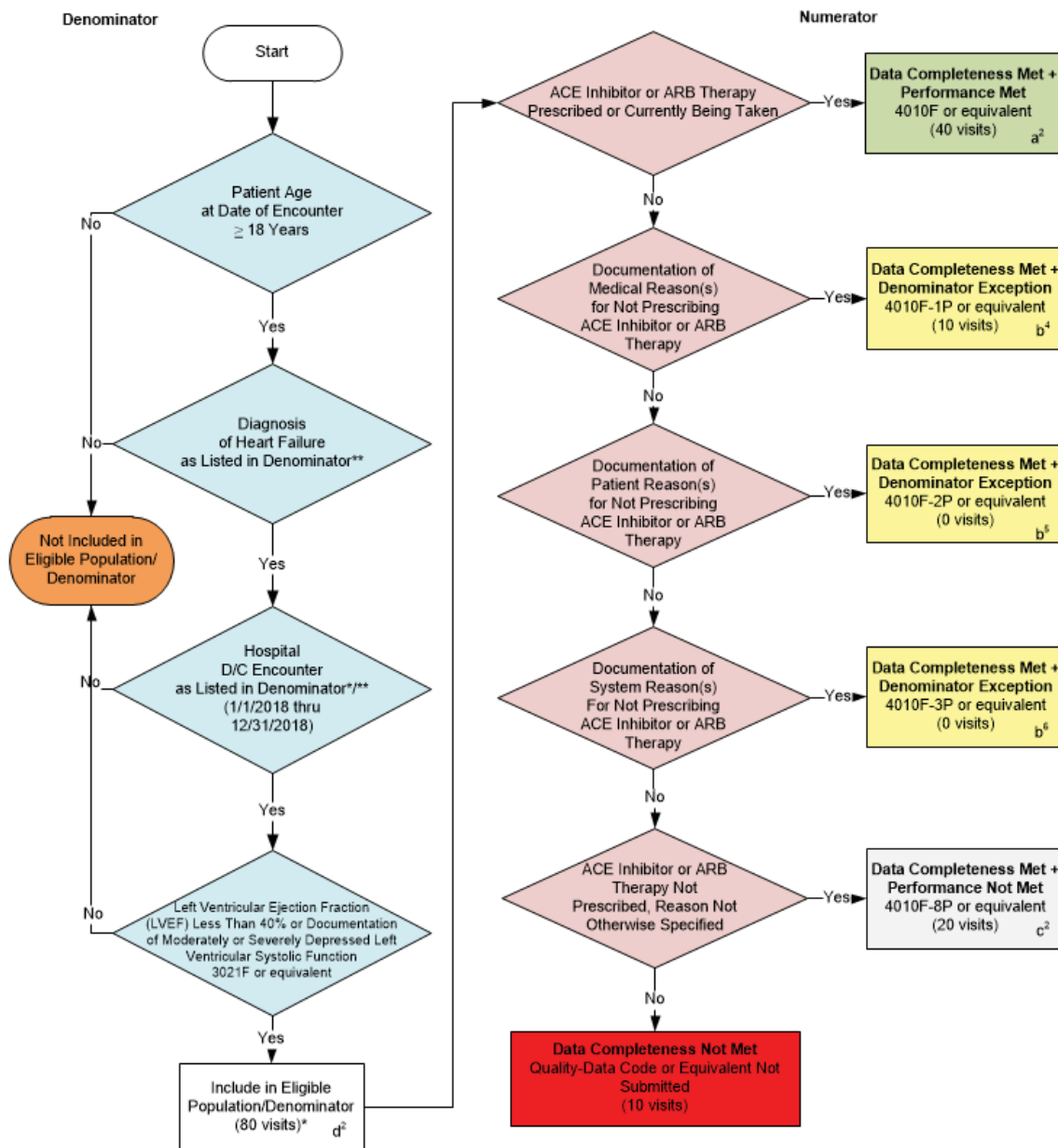
\*\*See the posted Measure Specification for specific coding and instructions to submit this measure.  
NOTE: Submission Frequency: Patient-process

CPT only copyright 2017 American Medical Association. All rights reserved.  
The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

v2



**2018 Registry Flow for Quality ID #5 NQF #0081:  
Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor  
Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)  
Submission Criteria Two**



\*This measure is to be submitted at two different frequencies, depending upon the clinical setting. This measure is to be submitted for a minimum of **once per performance period** when seen in the outpatient setting **AND** submitted at **each hospital discharge** (99238 and 99239) during the performance period. Please reference the Submission Criteria One for Outpatient Setting Flow.

\*\*See the posted Measure Specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Visit

CPT only copyright 2017 American Medical Association. All rights reserved.  
The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

v2



**2018 Registry Flow for Quality ID #5 NQF #0081:  
Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor  
Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)**

**SAMPLE CALCULATIONS:**

Data Completeness=

$$\frac{\text{Performance Met (a}^1\text{+a}^2\text{=80 visits*) + Denominator Exception (b}^1\text{+b}^2\text{+b}^3\text{+b}^4\text{+b}^5\text{+b}^6\text{=20 visits*) + Performance Not Met (c}^1\text{+c}^2\text{=40 visits*)}}{\text{Eligible Population / Denominator (d}^1\text{+d}^2\text{=160 visits*)}} = \frac{140 \text{ visits*}}{160 \text{ visits*}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a}^1\text{+a}^2\text{=80 visits*)}}{\text{Data Completeness Numerator (140 visits*) - Denominator Exception (b}^1\text{+b}^2\text{+b}^3\text{+b}^4\text{+b}^5\text{+b}^6\text{=20 visits*)}} = \frac{80 \text{ visits*}}{120 \text{ visits*}} = 66.67\%$$

\*This measure is to be submitted at two different frequencies, depending upon the clinical setting. This measure is to be submitted for a minimum of **once per performance period** when **seen in the outpatient setting AND submitted at each hospital discharge** (99238 and 99239) during the performance period. In order to show an accurate calculation for Submission Criteria One and Submission Criteria Two, patients and visits were combined and shown as visits within the calculation.

This measure contains 2 Submission Criteria, although as the Sample Calculation indicates, there is ONLY one data completeness and one performance rate for this measure.  
NOTE: Submission Frequency: Patient-process/Visit

CPT only copyright 2017 American Medical Association. All rights reserved.  
The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

v2

## 2018 Registry Flow for Quality ID

### #5 NQF #0081: Heart Failure (HF): Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Please refer to the specific section of the specification to identify the denominator and numerator information for use in submitting this Individual Specification. This flow is for registry data submission.

#### Submission Criteria One: Outpatient Setting:

1. Start with Denominator
2. Check Patient Age:
  - a. If the Age is greater than or equal to 18 years of age on Date of Encounter equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.
  - b. If the Age is greater than or equal to 18 years of age on Date of Encounter equals Yes during the measurement period, proceed to check Patient Diagnosis.
3. Check Patient Diagnosis:
  - a. If Diagnosis of Heart Failure as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Diagnosis of Heart Failure as Listed in the Denominator equals Yes, proceed to check Outpatient Encounter-To be Used for Numerator Evaluation
4. Check Outpatient Encounter-To be Used for Numerator Evaluation:
  - a. If Outpatient Encounter – To be Used for Numerator Evaluation as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Outpatient Encounter – To be Used for Numerator Evaluation as Listed in the Denominator equals Yes, proceed to check Telehealth Modifier.
5. Check Telehealth Modifier:
  - a. If Telehealth Modifier equals Yes, do not include in Eligible Patient Population. Stop Processing.
  - b. If Telehealth Modifier equals No, proceed to check At Least One Additional Patient Encounter Performed.
6. Check At Least One Additional Patient Encounter Performed:
  - a. If At Least One Additional Patient Encounter Performed as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If At Least One Additional Patient Encounter Performed as Listed in the Denominator equals Yes, proceed to check Telehealth Modifier.
7. Check Telehealth Modifier:
  - a. If Telehealth Modifier equals Yes, do not include in Eligible Patient Population. Stop Processing.
  - b. If Telehealth Modifier equals No, proceed to check Current or Prior Diagnosis of LVSD (LVEF <40%).

8. Check Current or Prior Diagnosis of LVSD (LVEF <40%):
  - a. If Current or Prior Diagnosis of LVSD (LVEF <40%) as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Current or Prior Diagnosis of LVSD (LVEF <40%) as Listed in the Denominator equals Yes, include in the Eligible Population.
9. Denominator Population:
  - a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d<sup>1</sup> equals 80 patients in the Sample Calculation.
10. Start Numerator
11. Check ACE/ARB Therapy Prescribed or Currently Being Taken:
  - a. If ACE/ARB Therapy Prescribed or Currently Being Taken equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a<sup>1</sup> equals 40 patients in the Sample Calculation.
  - c. If ACE/ARB Therapy Prescribed or Currently Being Taken equals No, proceed to Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy.
12. Check Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy:
  - a. If Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b<sup>1</sup> equals 10 patients in the Sample Calculation.
  - c. If Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy equals No, proceed to Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy.
13. Check Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy
  - a. If Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b<sup>2</sup> equals 0 patients in the Sample Calculation.
  - c. If Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy equals No, proceed to Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy.
14. Check Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy:

- a. If Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b<sup>3</sup> equals 0 patients in the Sample Calculation.
  - c. If Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy equals No, proceed to ACE/ARB Therapy Not Prescribed, Reason Not Specified.
15. Check ACE/ARB Therapy Not Prescribed, Reason Not Otherwise Specified:
- a. If ACE/ARB Therapy was Not Prescribed, Reason Not Otherwise Specified equals Yes, include in Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c<sup>1</sup> equals 20 patients in the Sample Calculation.
  - c. If ACE/ARB Therapy was Not Prescribed, Reason Not Otherwise Specified equals No, proceed to Data Completeness Not Met.
16. Check Data Completeness Not Met
- a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not submitted. 10 patients have been subtracted from the Data Completeness Numerator in the Sample Calculation.

## 2018 Registry Flow for Quality ID

### #5 NQF #0081: Heart Failure (HF): Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Please refer to the specific section of the specification to identify the denominator and numerator information for use in submitting this Individual Specification. This flow is for registry data submission.

#### Submission Criteria Two: Hospital Discharge Setting

1. Start with Denominator
2. Check Patient Age:
  - a. If the Age is greater than or equal to 18 years of age on Date of Encounter equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.
  - b. If the Age is greater than or equal to 18 years of age on Date of Encounter equals Yes during the measurement period, proceed to check Patient Diagnosis.
3. Check Patient Diagnosis:
  - a. If Diagnosis of Heart Failure as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Diagnosis of Heart Failure as Listed in the Denominator equals Yes, proceed to check Hospital Discharge Encounter Performed.
4. Check Hospital Discharge Encounter Performed:
  - a. If Hospital Discharge Encounter as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Hospital Discharge Encounter as Listed in the Denominator equals Yes, proceed to check Current or Prior Diagnosis of LVSD (LVEF <40%).
5. Check Current or Prior Diagnosis of LVSD (LVEF <40%):
  - a. If Current or Prior Diagnosis of LVSD (LVEF <40%) as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing
  - b. If Current or Prior Diagnosis of LVSD (LVEF <40%) as Listed in the Denominator equals Yes, include in the Eligible Population.
6. Denominator Population:
  - a. Denominator Population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d<sup>2</sup> equals 80 visits in the Sample Calculation.
7. Start Numerator
8. Check ACE/ARB Therapy Prescribed or Currently Being Taken:
  - a. If ACE/ARB Therapy Prescribed or Currently Being Taken equals Yes, include in Data Completeness Met and Performance Met.

- b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a<sup>2</sup> equals 40 visits in the Sample Calculation.
  - c. If ACE/ARB Therapy Prescribed or Currently Being Taken equals No, proceed to Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy.
- 9. Check Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy:
  - a. If Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b<sup>4</sup> equals 10 visits in the Sample Calculation.
  - c. If Documentation of Medical Reason(s) for Not Prescribing ACE/ARB Therapy equals No, proceed to Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy.
- 10. Check Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy
  - a. If Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b<sup>5</sup> equals 0 visits in the Sample Calculation.
  - c. If Documentation of Patient Reason(s) for Not Prescribing ACE/ARB Therapy equals No, proceed to Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy.
- 11. Check Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy:
  - a. If Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b<sup>6</sup> equals 0 visits in the Sample Calculation.
  - c. If Documentation of System Reason(s) for Not Prescribing ACE/ARB Therapy equals No, proceed to ACE/ARB Therapy Not Prescribed, Reason Not Otherwise Specified.
- 12. Check ACE/ARB Therapy Not Prescribed, Reason Not Otherwise Specified:
  - a. If ACE/ARB Therapy Not Prescribed, Reason Not Otherwise Specified equals Yes, include in Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c<sup>2</sup> equals 20 visits in the Sample Calculation.
  - c. If ACE/ARB Therapy Not Prescribed, Reason Not Otherwise Specified equals No, proceed to Data Completeness Not Met.

13. Check Data Completeness Not Met

- a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not submitted. 10 visits have been subtracted from the Data Completeness Numerator in the Sample Calculation.

This measure contains 2 Submission Criteria, although as the Sample Calculation indicates, there is **ONLY** one Data Completeness and one Performance Rate for this measure.

SAMPLE CALCULATIONS:			
<b>Data Completeness=</b>			
$\frac{\text{Performance Met (a}^1\text{+a}^2\text{=80 visits*) + Denominator Exception (b}^1\text{+b}^2\text{+b}^3\text{+b}^4\text{+b}^5\text{+b}^6\text{=20 visits*) + Performance Not Met (c}^1\text{+c}^2\text{=40 visits*)}}{\text{Eligible Population / Denominator (d}^1\text{+d}^2\text{=160 visits*)}} = \frac{140 \text{ visits*}}{160 \text{ visits*}} = 87.50\%$			
<b>Performance Rate=</b>			
$\frac{\text{Performance Met (a}^1\text{+a}^2\text{=80 visits*)}}{\text{Data Completeness Numerator (140 visits*) – Denominator Exception (b}^1\text{+b}^2\text{+b}^3\text{+b}^4\text{+b}^5\text{+b}^6\text{=20 visits*)}} = \frac{80 \text{ visits*}}{120 \text{ visits*}} = 66.67\%$			