Title

2024 Update to the 2020 ACC/AHA Clinical Performance and Quality Measures for Adults With Heart Failure A Report of the American Heart Association/American College of Cardiology Joint Committee on Performance Measures

Journal

Journal of the American College of Cardiology, 84(12)

ISSN

0735-1097

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Publication Date

2024-09-01

DOI

10.1016/j.jacc.2024.05.014

Peer reviewed

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY VOL. ■, NO. ■, 2024

PERFORMANCE AND QUALITY MEASURES

2024 Update to the 2020 ACC/AHA Clinical Performance and Quality Measures for Adults With Heart Failure

A Report of the American Heart Association/American College of Cardiology Joint Committee on Performance Measures

Developed in Collaboration With the Heart Failure Society of America

Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, American Society of Health-System Pharmacists, Heart Rhythm Society, and the International Society for Heart and Lung Transplantation

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This document underwent a 14-day peer review between January 22, 2024, and February 5, 2024.

This document was approved by the American College of Cardiology Clinical Policy Approval Committee in April 2024; the American Heart Association Science Advisory and Coordinating Committee in May 2024; and by the American College of Cardiology Science and Quality Committee, the American Heart Association Executive Committee, and the Heart Failure Society of America in June 2024.

The American College of Cardiology requests that this document be cited as follows: Kittleson MM, Breathett K, Ziaeian B, Aguilar D, Blumer V, Bozkurt B, Diekemper RL, Dorsch MP, Heidenreich PA, Jurgens CY, Khazanie P, Koromia GA, Van Spall HGC. 2024 Update to the 2020 ACC/AHA Clinical Performance and Quality Measures for Adults With Heart Failure: A Report of the American Heart Association/American College of Cardiology Joint Committee on Performance Measures. *J Am Coll Cardiol*. Published online August 8, 2024. https://doi.org/10.1016/j.jacc.2024.05.014

This article has been copublished in *Circulation: Cardiovascular Quality and Outcomes*.

Copies: This document is available on the websites of the American College of Cardiology (www.acc.org) and the American Heart Association (professional.heart.org). For copies of this document, please contact Elsevier Inc.'s Reprint Department via fax (212-633-3820) or e-mail (reprints@elsevier.com).

ISSN 0735-1097/$36.00 https://doi.org/10.1016/j.jacc.2024.05.014

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ABSTRACT

This document describes performance measures for heart failure that are appropriate for public reporting or pay-for-performance programs and is meant to serve as a focused update of the "2020 ACC/AHA Clinical Performance and Quality Measures for Adults With Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Performance Measures." The new performance measures are taken from the "2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines" and are selected from the strongest recommendations (Class 1 or Class 3). In contrast, quality measures may not have as much evidence base and generally comprise metrics that might be useful for clinicians and health care organizations for quality improvement but are not yet appropriate for public reporting or pay-for-performance programs. New performance measures include optimal blood pressure control in patients with heart failure with preserved ejection fraction, the use of sodium-glucose cotransporter-2 inhibitors for patients with heart failure with reduced ejection fraction, and the use of guideline-directed medical therapy in hospitalized patients. New quality measures include the use of sodium-glucose cotransporter-2 inhibitors in patients with heart failure with mildly reduced and preserved ejection fraction, the optimization of guideline-directed medical therapy prior to intervention for chronic secondary severe mitral regurgitation, continuation of guideline-directed medical therapy for patients with heart failure with improved ejection fraction, identifying both known risks for cardiovascular disease and social determinants of health, patient-centered counseling regarding contraception and pregnancy risks for individuals with cardiomyopathy, and the need for a monoclonal protein screen to exclude light chain amyloidosis when interpreting a bone scintigraphy scan assessing for transthyretin cardiac amyloidosis.

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TOP 10 TAKE-HOME MESSAGES FOR ADULTS WITH HEART FAILURE

1. This document describes performance measures for heart failure that are appropriate for public reporting or pay-for-performance programs (ie, a form of value-based purchasing).
2. The performance measures are taken from the "2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines" and are selected from the strongest recommendations (Class 1 or 3).
3. Quality measures are also provided that are not yet ready for public reporting or pay-for-performance but might be useful to clinicians and health care organizations for quality improvement.
4. For all measures, if the clinician determines the care is not appropriate for the patient based on objective evidence to support decision-making, or if the patient declines treatment, that patient is excluded from the measure.
5. For all measures, patients after heart transplantation or left ventricular assist device placement are excluded.
6. Blood pressure control in heart failure with preserved ejection fraction is added as a performance measure.
7. The use of sodium-glucose cotransporter-2 inhibitors for patients with heart failure across the spectrum of ejection fraction is added as a performance measure for heart failure with reduced ejection fraction and as a quality measure for heart failure with mildly reduced and preserved ejection fraction.
8. To address the importance of optimization of heart failure medications, a performance measure is added for the initiation of optimal guideline-directed medical therapy in hospitalized patients, and quality measures are added for the optimization of guideline-directed medical therapy prior to intervention for chronic secondary severe mitral regurgitation and for continuation of guideline-directed medical therapy for patients with heart failure with improved ejection fraction.
9. Highlighting the importance of multidisciplinary care, quality measures are added to emphasize targeting both known risks for cardiovascular disease and social determinants of health and patient-centered counseling regarding contraception and pregnancy risks for individuals with cardiomyopathy.
10. To reflect the importance of accurate diagnosis of cardiac amyloidosis, a performance measure is added for a monoclonal protein screen to exclude light chain amyloidosis when interpreting a bone scintigraphy scan assessing for transthyretin cardiac amyloidosis.

PREAMBLE

The American College of Cardiology (ACC)/American Heart Association (AHA) performance measurement sets serve as vehicles to accelerate translation of scientific evidence into clinical practice. Measure sets developed by the ACC/AHA are intended to provide practitioners and institutions that deliver cardiovascular services with tools to measure the quality of care provided and identify opportunities for improvement.

Writing committees are instructed to consider the methodology of performance measure development[1,2] and to ensure that the measures developed are aligned with ACC/AHA clinical practice guidelines. The writing committees are also charged with constructing measures that maximally capture important aspects of care quality, including timeliness, safety, effectiveness, efficiency, equity, and patient-centeredness, while minimizing,

when possible, the reporting burden imposed on hospitals, practices, and practitioners.

Potential challenges from measure implementation may lead to unintended consequences. The manner in which challenges are addressed is dependent on several factors, including the measure design, data collection method, performance attribution, baseline performance rates, reporting methods, and incentives linked to these reports.

The AHA/ACC Joint Committee on Performance Measures (Joint Committee) distinguishes performance measures from quality measures. Performance measures are generally selected from the highest level of evidence, usually from Class 1 or 3 recommendations of clinical practice guidelines. They are commonly used for national quality improvement efforts, public reporting, and pay-for-performance programs. In contrast, quality measures may not have as much evidence base and generally comprise metrics that *may* be useful for local quality improvement but are not yet appropriate for public reporting or pay-for-performance programs. New measures are initially evaluated for potential inclusion as performance measures. In some cases, a measure is insufficiently supported by the clinical practice guidelines. In other instances, when the clinical practice guidelines support a measure, the writing committee may feel it is necessary to have the measure tested to identify the consequences of measure implementation. Quality measures may then be promoted to the status of performance measures as supporting evidence becomes available.

Biykem Bozkurt, MD, PhD, FACC, FAHA, FHFSA
Chair, AHA/ACC Joint Committee on Performance Measures

1. DECISION TO UPDATE THE HEART FAILURE PERFORMANCE MEASURES

1.1. Background

In 2023, the Joint Committee on Performance Measures convened the writing committee to begin the process of updating the measures from the "2020 ACC/AHA Clinical Performance and Quality Measures for Adults With Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Performance Measures."[3] The writing committee was also charged with the task of identifying any additional measures in need of updating in accordance with the "2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines."[4] The committee did not retire or make any changes to the measures from the 2020 ACC/AHA heart failure measure set.[3]

2. ACC/AHA UPDATED HEART FAILURE PERFORMANCE MEASURES

2.1. Discussion of Changes to the Heart Failure Performance Measures

After reviewing the existing clinical practice guidelines and the 2020 ACC/AHA heart failure measure set,[3] the writing committee discussed which measures required revision to reflect updated science related to heart failure and identified which guideline recommendations could serve as the basis for new performance or quality measures. The writing committee also reviewed existing publicly available measure sets.

These subsections serve as a synopsis of the assessment of previous measures and a description of why the new measures were created for both the inpatient and outpatient settings.

2.1.1. Retired Measures

The writing committee did not retire any measures from the 2020 ACC/AHA heart failure measure set[3] as all continued to be relevant to performance and quality of patient care.

2.1.2. Revised Measures

The writing committee reviewed and did not make any changes to the measures included in the 2020 ACC/AHA heart failure measure set.[3]

2.1.3. New Measures

The writing committee created 3 new performance measures (PM 1-3) and 6 new quality measures (QM 1-6). The 3 new performance measures were based on Class 1 guideline recommendations for therapies known to improve outcomes in patients with heart failure, including initiation of guideline-directed medical therapy in hospitalized patients, blood pressure control in patients with heart failure with preserved ejection fraction, and the use of sodium-glucose cotransporter-2 inhibitors for patients with heart failure with reduced ejection fraction in the inpatient and outpatient setting. The 6 new quality measures focused on the use of sodium-glucose cotransporter-2 inhibitors across the spectrum of ejection fraction, the assessment of social determinants of health, patient-centered counseling regarding contraception and the risks of pregnancy in individuals with cardiomyopathy, continuation of guideline-directed medical therapy in patients with heart failure with improved ejection fraction, optimization of guideline-directed medical therapy in patients with left ventricular dysfunction prior to any intervention for chronic secondary severe mitral regurgitation, and bone scintigraphy in patients with suspected cardiac amyloidosis interpreted only in the context of a monoclonal protein screen. Of note, the use of sodium-

glucose cotransporter-2 inhibitors in patients with mildly reduced and preserved ejection fraction is included as a quality measure even though it is a Class 2a recommendation in the 2022 AHA/ACC/HFSA heart failure guideline.[4] The Class 2a recommendation was based on the publication of a single randomized controlled trial available at the time,[5] with a subsequent second randomized controlled trial confirming the benefit of sodium-glucose cotransporter-2 inhibitors in this population[6] and a resulting Class 1 recommendation in the European Society of Cardiology heart failure guideline.[7] An update to the 2022 AHA/ACC/HFSA heart failure guideline[4] would be needed to determine if this measure could be upgraded to a performance measure.

For more detailed information on each measure's construct, refer to the specifications in Appendix A.

PRESIDENTS AND STAFF

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KEY WORDS ACC/AHA Performance Measures, heart failure, performance measures, quality indicators, quality measures

APPENDIX A. HEART FAILURE MEASURES

Performance Measures for Heart Failure

SHORT TITLE: PM-1 **Start GDMT at Discharge From HF Hospitalization**

PM-1: Start GDMT at Discharge From HF Hospitalization (Inpatient Setting)

Measure Description: Percentage of patients age ≥18 y with a diagnosis of HF with a current LVEF ≤40% who are prescribed GDMT (includes: ARN inhibitor, ACE inhibitor if ARN inhibitor-intolerant or contraindicated, ARB if unable to take ARN inhibitor or ACE inhibitor; evidence-based beta blockers; MRA; SGLT2 inhibitors) at discharge from HF hospitalization

Numerator	Patients who were prescribed* GDMT (includes: ARN inhibitor, ACE inhibitor, or ARB; evidence-based beta blockers;† MRA; SGLT2 inhibitors) at discharge from HF hospitalization
Denominator	Patients age ≥18 y with a diagnosis of HF with LVEF ≤40% who are discharged from the hospital
Denominator Exclusions	Heart transplant LVAD
Denominator Exceptions	Documentation of medical reason(s) for not prescribing GDMT (eg, intolerance) Documentation of patient reason(s) for not prescribing GDMT (eg, patient preference, economic or access issues)
Measurement Period	At hospital discharge
Sources of Data	EHR data Administrative data/claims (inpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record
Attribution	Individual practitioner Facility
Care Setting	Inpatient

Rationale

Beta blockers improve survival and reduce hospitalization for patients with stable HF and reduced LVEF (HFrEF).[8] Clinical trials have shown that beta blockers should be prescribed to all patients when HFrEF is diagnosed, including in hospital, unless contraindicated or not tolerated.[4]

Use of ACE inhibitor, ARB, or ARN inhibitor therapy has been associated with improved outcomes in patients with reduced LVEF.[8] ARN inhibitor therapy has also been shown to more significantly improve outcomes in outpatients with NYHA functional class I to III HF,[9] such that the newest guidelines recommend replacement of ACE inhibitors or ARBs with ARN inhibitor therapy in eligible patients.[4] While superiority of ARN inhibitor over ACE inhibitor or ARB has not been established in patients hospitalized with HF, the PIONEER-HF trial found that inpatient initiation of ARN inhibitor was also high value compared with delayed initiation postdischarge.[10]

MRA therapy improves outcome in patients with HFrEF.[8] In the COACH study, continuation of spironolactone among hospitalized patients with HFrEF was associated with lower 30-day mortality and HF rehospitalization.[11]

Several RCTs have shown that SGLT2 inhibitors, compared with placebo, reduced the composite of cardiovascular death or HF hospitalization by at least 25%.[12-15] The benefit appears to be independent of the glucose-lowering effects[16] and is evident when prescribed during hospitalization or shortly after discharge.[12,17]

Although the guidelines do not specify that all classes of GDMT should be prescribed at the time of discharge, the benefit of individual trials suggests that this optimization during hospitalization is an important goal when tolerated.

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In patients with HFrEF requiring hospitalization, preexisting GDMT should be continued and optimized to improve outcomes, unless contraindicated.[11,18-21] (Class 1, Level of Evidence: B-NR)
2. In patients experiencing mild decrease of renal function or asymptomatic reduction of blood pressure during HF hospitalization, diuresis and other GDMT should not routinely be discontinued.[22-27] (Class 1, Level of Evidence: B-NR)
3. In patients with HFrEF, GDMT should be initiated during hospitalization after clinical stability is achieved.[11,12,20,21,28-33] (Class 1, Level of Evidence: B-NR)
4. In patients with HFrEF, if discontinuation of GDMT is necessary during hospitalization, it should be reinitiated and further optimized as soon as possible.[34-37] (Class 1, Level of Evidence: B-NR)

*Prescribed may include: Inpatient setting: Prescription given to the patient at hospital discharge, or continuation of prior medication at hospital discharge as documented in the discharge medication list.

†Evidence-based beta blockers include: Any 1 of the 3 beta blockers proven to reduce mortality (ie, bisoprolol, carvedilol, sustained-release metoprolol succinate).[4]

ACC indicates American College of Cardiology; ACE, angiotensin-converting enzyme; AHA, American Heart Association; ARB, angiotensin receptor blocker; ARN, angiotensin receptor–neprilysin; COACH, Coordinating Study Evaluating Outcomes of Advising and Counselling in Heart Failure study; EHR, electronic health record; GDMT, guideline-directed medical therapy; HF, heart failure; HFrEF, heart failure with reduced ejection fraction; HFSA, Heart Failure Society of America; LVAD, left ventricular assist device; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; NYHA, New York Heart Association; PIONEER-HF, Comparison of Sacubitril/Valsartan Versus Enalapril on Effect on NT-proBNP (N-terminal pro-B type natriuretic peptide) in Patients Stabilized From an Acute Heart Failure Episode; PM, performance measure; RCT, randomized controlled trial; and SGLT2, sodium-glucose cotransporter-2.

APPENDIX A. CONTINUED

SHORT TITLE: PM-2 **BP Control in HFpEF With Hypertension**

PM-2: BP Control in Patients With HFpEF and Hypertension (Inpatient and Outpatient Setting)

Measure Description: Percentage of patients age ≥18 y with a diagnosis of HF with LVEF ≥50% and who have optimal BP control for hypertension	
Numerator	Patients with HF and a SBP <130 mm Hg and a DBP <80 mm Hg using the most recent measurement during the 12-mo measurement period
Denominator	Patients age ≥18 y with a diagnosis of HF with LVEF ≥50%
Denominator Exclusions	End-stage renal disease, kidney transplant, pregnancy LVAD
Denominator Exceptions	Documentation of medical reason(s) for not doing optimal BP control (eg, treatment intolerance, significant risk of treatment intolerance, especially for patients with frailty ≥65 y of age) Documentation of patient reason(s) for not doing optimal BP control (eg, patient preference, economic or access issues)
Measurement Period	12 mo
Sources of Data	EHR data Administrative data/claims (inpatient or outpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record Prospective data collection flow sheet Electronically or telephonically transmitted BP readings
Attribution	Individual practitioner Facility
Care Setting	Inpatient Outpatient (office, clinic, home, or ambulatory)

Rationale

The role of BP control is well established for the prevention of HF, as well as for the reduction of other cardiovascular events and HF mortality in patients without prevalent baseline HF.[38-40] The SPRINT trial and meta-analyses established that more intensive BP control in patients with high cardiovascular risk significantly reduces HF and other cardiovascular outcomes.[38,40] In recent clinical practice guidelines for hypertension, BP targets in HFpEF are extrapolated from those for the treatment of patients with hypertension in general.[41]

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. Patients with HFpEF and hypertension should have medication titrated to attain BP targets in accordance with published clinical practice guidelines to prevent morbidity.[38-40] (Class 1, Level of Evidence: C-LD)

ACC indicates American College of Cardiology; AHA, American Heart Association; BP, blood pressure; DBP, diastolic blood pressure; EHR, electronic health record; HF, heart failure; HFpEF, heart failure with preserved ejection fraction; HFSA, Heart Failure Society of America; LVAD, left ventricular assist device; LVEF, left ventricular ejection fraction; PM, performance measure; SBP, systolic blood pressure; and SPRINT, Systolic Blood Pressure Intervention Trial.

APPENDIX A. CONTINUED

SHORT TITLE: PM-3 **SGLT2 Inhibitor Therapy for HFrEF**

PM-3: SGLT2 Inhibitor Therapy for Patients With Symptomatic HFrEF (Inpatient and Outpatient Setting)

Measure Description: Percentage of patients age ≥18 y with a diagnosis of Stage C HF (defined as current or prior HF symptoms) with a current LVEF ≤40% who were prescribed an evidence-based SGLT2 inhibitor within a 12-mo period in the outpatient setting or at hospital discharge	
Numerator	Patients who were prescribed* SGLT2 inhibitor within a 12-mo period in the outpatient setting or at hospital discharge
Denominator	Patients age ≥18 y with a diagnosis of Stage C HF with LVEF ≤40% with an outpatient visit or hospitalization
Denominator Exclusions	Heart transplant LVAD
Denominator Exceptions	Documentation of medical reason(s) for not prescribing SGLT2 inhibitor therapy (eg, intolerance, eGFR <20 mL/min/1.73 m^2, type 1 diabetes) Documentation of patient reason(s) for not prescribing SGLT2 inhibitor therapy (eg, patient preference, economic or access issues)
Measurement Period	SGLT2 inhibitor therapy initiated within a 12-mo period of being seen in the outpatient setting or from hospital discharge
Sources of Data	EHR data Administrative data/claims (inpatient or outpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record
Attribution	Individual practitioner Facility
Care Setting	Inpatient Outpatient

Rationale

SGLT2 inhibitors block the reabsorption of glucose in the kidney and reduce blood glucose, which can have positive cardiovascular effects. The DAPA-HF and EMPEROR-Reduced randomized trials demonstrated that SGLT2 inhibitors (dapagliflozin and empagliflozin) reduced the risk of death and HF hospitalizations compared with placebo in patients with symptomatic HFrEF.[13,14] The EMPULSE randomized controlled trial demonstrated that SGLT2 inhibitors improve a hierarchical composite endpoint of death, HF events, and quality of life when the drug was started during an HF hospitalization.[17] These results were independent of the participant being diagnosed with diabetes at baseline and patients were already prescribed background GDMT for HFrEF.

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In patients with symptomatic chronic HFrEF, SGLT2 inhibitors are recommended to reduce hospitalization for HF and cardiovascular mortality, irrespective of the presence of type 2 diabetes.[13,14] (Class 1, Level of Evidence: A)

*Prescribed may include: Inpatient setting: Prescription given to the patient for SGLT2 inhibitor at discharge or SGLT2 inhibitor to be continued after discharge as documented in the discharge medication list; AND Outpatient setting: Prescription given to the patient for SGLT2 inhibitor at ≥1 visit in the 12-mo measurement period or patient already taking SGLT2 inhibitor as documented in current medication list.

ACC indicates American College of Cardiology; AHA, American Heart Association; DAPA-HF, Dapagliflozin and Prevention of Adverse Outcomes in Heart Failure; eGFR, estimated glomerular filtration rate; EHR, electronic health record; EMPEROR-Reduced, Empagliflozin Outcome Trial in Patients With Chronic Heart Failure With Reduced Ejection Fraction; EMPULSE, Empagliflozin in Patients Hospitalized With Acute Heart Failure Who Have Been Stabilized; GDMT, guideline-directed medical therapy; HF, heart failure; HFrEF, heart failure with reduced ejection fraction; HFSA, Heart Failure Society of America; LVAD, left ventricular assist device; LVEF, left ventricular ejection fraction; PM, performance measure; and SGLT2, sodium-glucose cotransporter-2.

APPENDIX A. CONTINUED

Quality Measures for Heart Failure

SHORT TITLE: QM-1 **SGLT2 Inhibitor for HFmrEF or HFpEF**

QM-1: SGLT2 Inhibitor Therapy for Patients With HFmrEF or HFpEF (Inpatient and Outpatient Setting)

Measure Description: Percentage of patients age ≥18 y with a diagnosis of HF with LVEF >40% who are prescribed SGLT2 inhibitor either within a 12-mo period when seen in the outpatient setting or at hospital discharge

Numerator	Patients who were prescribed* SGLT2 inhibitor either within a 12-mo period when seen in the outpatient setting or at hospital discharge
Denominator	Patients age ≥18 y with a diagnosis of HF with LVEF >40%
Denominator Exclusions	NYHA functional class I Heart transplant LVAD
Denominator Exceptions	Documentation of medical reason(s) for not prescribing SGLT2 inhibitor therapy (eg, intolerance, eGFR <20 mL/min/1.73 m^2, type 1 diabetes) Documentation of patient reason(s) for not prescribing SGLT2 inhibitor therapy (eg, patient preference, economic or access issues)
Measurement Period	SGLT2 inhibitor therapy initiated within a 12-mo period of being seen in the outpatient setting or from hospital discharge
Sources of Data	EHR data Administrative data/claims (inpatient or outpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record
Attribution	Individual practitioner Facility
Care Setting	Inpatient Outpatient

Rationale

SGLT2 inhibitor therapy improves symptoms, reduces HF hospitalizations, and may improve survival in patients with HF and mildly reduced or preserved LVEF.[5,6,42] Use of SGLT2 inhibitor therapy has been low for patients with HF, demonstrating a moderate to large treatment gap.[43]

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In patients with HFmrEF, SGLT2 inhibitors can be beneficial in decreasing HF hospitalizations and cardiovascular mortality.[5] (Class 2a, Level of Evidence: B-R)
2. In patients with HFpEF, SGLT2 inhibitors can be beneficial in decreasing HF hospitalizations and cardiovascular mortality.[5] (Class 2a, Level of Evidence: B-R)

*Prescribed may include: Inpatient setting: prescription given to the patient at discharge or SGLT2 inhibitor therapy to be continued after discharge as documented in the discharge medication list; AND Outpatient setting: prescription given to the patient at ≥1 visits in the measurement period or patient already taking SGLT2 inhibitor therapy as documented in current medication list.

ACC indicates American College of Cardiology; AHA, American Heart Association; eGFR, estimated glomerular filtration rate; EHR, electronic health record; HF, heart failure; HFmrEF, heart failure with mildly reduced ejection fraction; HFpEF, heart failure with preserved ejection fraction; HFSA, Heart Failure Society of America; LVAD, left ventricular assist device; LVEF, left ventricular ejection fraction; NYHA, New York Heart Association; QM, quality measure; and SGLT2, sodium-glucose cotransporter-2.

APPENDIX A. CONTINUED

SHORT TITLE: QM-2 **Screening and Documented Action for Social Determinants of Health for HF Patients**

QM-2: Screening and Documented Action for Social Determinants of Health for HF Patients (Inpatient and Outpatient Setting)

Measure Description: Percentage of patients age ≥18 y with a diagnosis of HF who are screened for social determinants of health with a documented action to close the identified gap	
Numerator	Patients for whom there is documentation for social determinants of health screening* with documented action to close the identified gap
Denominator	Patients age ≥18 y with a diagnosis of HF
Denominator Exclusions	None
Denominator Exceptions	Documentation of patient reason(s) for not documenting screening for social determinants of health (eg, patient preference)
Measurement Period	12 mo
Sources of Data	EHR data (administered surveys[44-46]) Administrative data/claims (inpatient or outpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record
Attribution	Individual practitioner Facility
Care Setting	Inpatient Outpatient

Rationale

Important HF disparities are evident in risk factors, incidence, treatment, and outcomes across different populations.[47-50] Self-identified Black patients consistently exhibit the highest incidence of HF.[51] The World Health Organization defines social determinants of health as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life."[52] These factors, which include lower socioeconomic position, poverty, housing instability, food insecurity, access to care, and lack of transportation, significantly contribute to disparities in HF and represent barriers to optimal disease management.[49,53-55]

Health care system factors are also potential sources of disparities in HF care. Women, for instance, are less likely to receive HF discharge instructions,[56] less likely to be referred to specialty care,[57] and less likely to receive heart transplantation compared with men.[56] Black patients have been shown to be less likely to receive care from a cardiologist during an ICU admission for HF[58] and to have less access to specialized inpatient HF care.[59] Inequitable treatment of underrepresented racial and ethnic groups is related to a lack of management of social determinants of health, bias, and structural racism.[60]

A documented action to close the gap might include a social work consult, telemedicine visits, multidisciplinary visits on the same day and location, increased frequency of visits or calls, evaluation for food and housing security, education in health literacy, payment assistance programs, addition of a community liaison to the care team, psychiatric or psychological evaluation and treatment, or referral to establish primary care.

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In vulnerable patient populations at risk for health disparities, HF risk assessments and multidisciplinary management strategies should target both known risks for CVD and social determinants of health, as a means toward elimination of disparate HF outcomes.[47,61-65] (Class 1, Level of Evidence: C-LD)
2. Evidence of health disparities should be monitored and addressed at the clinical practice and the health care system levels.[59,66-71] (Class 1, Level of Evidence: C-LD)

*Social Determinants of Health Domains from "The Accountable Health Communities Health-Related Social Needs Screening Tool"[72]: 1) Housing instability; 2) Food insecurity; 3) Transportation problems; 4) Utility help needs; 5) Interpersonal safety; 6) Financial strain; 7) Employment; 8) Family and community support; 9) Education; 10) Physical activity; 11) Substance use; 12) Mental health; 13) Disabilities.

ACC indicates American College of Cardiology; AHA, American Heart Association; CVD, cardiovascular disease; EHR, electronic health record; HF, heart failure; HFSA, Heart Failure Society of America; ICU, intensive care unit; and QM, quality measure.

APPENDIX A. CONTINUED

SHORT TITLE: QM-3 **Counseling Regarding Pregnancy and Cardiovascular Risk**

QM-3: Counseling Regarding Contraception and the Risks of Cardiovascular Deterioration During Pregnancy in Individuals of Childbearing Potential With HF or Cardiomyopathy (Inpatient and Outpatient Setting)

Measure Description: Percentage of individuals age 14-55 y who are of childbearing potential and have a diagnosis of HF or cardiomyopathy who received counseling regarding contraception, risk of cardiovascular events in future pregnancies, and plans for future pregnancies

Numerator	Individuals who received counseling including an informed discussion on all of the following: 1. Contraception 2. Risk of cardiovascular events in future pregnancies 3. Use of GDMT during pregnancy and lactation
Denominator	Individuals age 14-55 y and who have a history of HF or cardiomyopathy (including past or present peripartum cardiomyopathy)
Denominator Exclusions	Individuals without functioning uterus or ovaries, including those after hysterectomy or oophorectomy
Denominator Exceptions	Documentation of patient reason(s) for not providing counseling regarding future pregnancies or contraception (eg, patient declining a discussion regarding future pregnancies or contraception)
Measurement Period	12 mo
Sources of Data	EHR data Paper medical record
Attribution	Individual practitioner
Care Setting	Inpatient Outpatient

Rationale

Preexisting cardiomyopathy, peripartum cardiomyopathy, or other cardiovascular conditions can increase the risk of HF during a pregnancy, and this is associated with adverse maternal and fetal outcomes.[73] There is either insufficient evidence of fetal safety or evidence of fetal harm with the use of certain GDMT classes during pregnancy.[74]

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In women with a history of HF or cardiomyopathy, including previous peripartum cardiomyopathy, patient-centered counseling regarding contraception and the risks of cardiovascular deterioration during pregnancy should be provided.[75-82] (Class 1, Level of Evidence: C-LD)
2. In women with HF or cardiomyopathy who are pregnant or currently planning for pregnancy, ACE inhibitors, ARB, ARN inhibitors, MRA, SGLT2 inhibitors, ivabradine, and vericiguat should not be administered because of significant risks of fetal harm.[83-85] (Class 3, Level of Evidence: C-LD)

ACC indicates American College of Cardiology; ACE, angiotensin-converting enzyme; AHA, American Heart Association; ARB, angiotensin receptor blocker; ARN, angiotensin receptor-neprilysin; EHR, electronic health record; GDMT, guideline-directed medical therapy; HF, heart failure; HFSA, Heart Failure Society of America; MRA, mineralocorticoid receptor antagonist; QM, quality measure; and SGLT2, sodium-glucose cotransporter-2.

APPENDIX A. CONTINUED

SHORT TITLE: QM-4 **Continuation of GDMT in Patients With HFimpEF**

QM-4: Continuation of GDMT in Patients With HFimpEF to Prevent Relapse of Cardiomyopathy and Reduction in LVEF (Outpatient Setting)

Measure Description: The percentage of patients age ≥18 y with a diagnosis of HFrEF (LVEF ≤40%) and a follow-up measurement of an improved LVEF >40% (HFimpEF) with continued prescriptions of GDMT (including ARN inhibitor, ACE inhibitor if ARN inhibitor-intolerant, ARB if unable to take ARN inhibitor or ACE inhibitor, evidence-based beta blockers; MRA; SGLT2 inhibitors) in the outpatient setting

Numerator	Patients initially diagnosed with HFimpEF who continued to have GDMT prescribed during the measurement period for HFrEF in the outpatient setting*
Denominator	Patients age ≥18 y medically managed† in the outpatient setting with a diagnosis of HFimpEF
Denominator Exclusions	Heart transplant LVAD
Denominator Exceptions	Documentation of medical reason(s) for not continuing to prescribe GDMT (eg, intolerance, curable causes) Documentation of patient reason(s) for not continuing GDMT (eg, patient preference, economic or access issues)
Measurement Period	12 mo
Sources of Data	EHR data Administrative data/claims (outpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record
Attribution	Individual practitioner Medical practices
Care Setting	Outpatient

Rationale

Improvement in symptoms, biomarkers, and cardiac function posttreatment does not signify complete and persistent recovery. Instead, it indicates remission, necessitating the continuation of treatment. Withdrawing HF medications in HFimpEF is associated with relapse of cardiomyopathy and reduction in LVEF.[86,87]

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In patients with HFimpEF after treatment, GDMT should be continued to prevent relapse of HF and LV dysfunction, even in patients who may become asymptomatic.[86] (Class 1, Level of Evidence: B-R)

*Prescribed may include: Outpatient setting: prescriptions for GDMT (includes: ARN inhibitor, ACE inhibitor if ARN inhibitor-intolerant, ARB if unable to take ARN inhibitor or ACE inhibitor; evidence-based beta blockers; MRA; SGLT2 inhibitors), continued to be provided to the patient at ≥1 visit in the 12-mo measurement period as documented in current medication list.

†Patients who are "medically managed" include those patients with ≥2 outpatient encounters in the measurement period.

ACC indicates American College of Cardiology; ACE, angiotensin-converting enzyme; AHA, American Heart Association; ARB, angiotensin receptor blocker; ARN, angiotensin receptor-neprilysin; EHR, electronic health record; GDMT, guideline-directed medical therapy; HF, heart failure; HFimpEF, heart failure with improved ejection fraction; HFrEF, heart failure with reduced ejection fraction; HFSA, Heart Failure Society of America; LV, left ventricle; LVAD, left ventricular assist device; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; QM, quality measure; and SGLT2, sodium-glucose cotransporter-2.

APPENDIX A. CONTINUED

SHORT TITLE: QM-5 **Optimizing GDMT Prior to TEER for Secondary MR**

QM-5: Optimizing GDMT in HFrEF Patients With Chronic Severe MR Secondary to LV Dysfunction Prior to TEER (Inpatient and Outpatient Setting)

Measure Description: The percentage of patients age ≥18 y with a diagnosis of HFrEF who have symptomatic chronic severe MR secondary to LV dysfunction who are documented as receiving optimal GDMT prior to TEER

Numerator	Patients who were prescribed* GDMT and the prescription includes documentation of titration to target or maximally tolerated doses† either within a 12-mo period when seen in the outpatient setting or at hospital discharge, prior to undergoing TEER
Denominator	Patients age ≥18 y with a diagnosis of HFrEF and chronic severe functional MR secondary to LV dysfunction prior to TEER
Denominator Exclusions	Heart transplant LVAD
Denominator Exceptions	Documentation of medical reason(s) for not prescribing GDMT (eg, intolerance) Documentation of patient reason(s) for not prescribing GDMT (eg, patient preference, economic or access issues)
Measurement Period	12 mo
Sources of Data	EHR data Administrative data/claims (inpatient or outpatient claims) Administrative data/claims expanded (multiple sources) Paper medical record
Attribution	Individual practitioner Facility
Care Setting	Inpatient Outpatient

Rationale

Optimal titration of GDMT to maximally tolerated doses can improve secondary MR associated with LV dysfunction, potentially rendering further intervention unnecessary.[88-90] Therefore, optimizing GDMT and re-evaluating MR prior to considering mitral valve interventions is imperative.

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. In patients with HF, VHD should be managed in a multidisciplinary manner in accordance with clinical practice guidelines for VHD to prevent worsening of HF and adverse clinical outcomes.[91-101] (Class 1, Level of Evidence: B-R)
2. In patients with chronic severe secondary MR and HFrEF, optimization of GDMT is recommended before any intervention for secondary MR related to LV dysfunction.[90,92,95,101-103] (Class 1, Level of Evidence: C-LD)

*Prescribed may include: Prescription provided to the patient for GDMT (includes: ARN inhibitor, ACE inhibitor if ARN inhibitor-intolerant, ARB if unable to take ARN inhibitor or ACE inhibitor; evidence-based beta blockers, MRA; SGLT2 inhibitors) as documented in the medication list or after discharge as documented in the discharge medication list.
†Titrated to maximally tolerated doses include: Inpatient setting: prescription provided to the patient for maximum tolerated dosage of beta blocker, ARN inhibitor or ACE inhibitor or ARB, and MRA as documented in the discharge medication list or documentation of intolerance of higher dose; AND Outpatient setting: prescription provided to the patient for maximum tolerated dosage of beta blocker; ARN inhibitor, ACE inhibitor, or ARB; and MRA or documentation of intolerance of a higher dose.

ACC indicates American College of Cardiology; ACE, angiotensin-converting enzyme; AHA, American Heart Association; ARB, angiotensin receptor blocker; ARN, angiotensin receptor-neprilysin; EHR, electronic health record; GDMT, guideline-directed medical therapy; HF, heart failure; HFrEF, heart failure with reduced ejection fraction; HFSA, Heart Failure Society of America; LV, left ventricle; LVAD, left ventricular assist device; MR, mitral regurgitation; MRA, mineralocorticoid receptor antagonist; QM, quality measure; SGLT2, sodium-glucose cotransporter-2; TEER, transcatheter mitral edge-to-edge repair; and VHD, valvular heart disease.

APPENDIX A. CONTINUED

SHORT TITLE: QM-6 **Monoclonal Protein Screen in Patients Who Have Undergone Bone Scintigraphy for Suspected Cardiac Amyloidosis**

QM-6: Serum and Urine Monoclonal Protein Screen Performed in Patients Who Have Undergone Bone Scintigraphy for Suspected Cardiac Amyloidosis (Inpatient and Outpatient Setting)

Measure Description: Percentage of patients age ≥18 y with suspected cardiac amyloidosis who undergo serum and urine monoclonal protein screen and have undergone bone scintigraphy

Numerator	Patients who have serum immunofixation electrophoresis, urine immunofixation electrophoresis, and serum kappa and lambda free light chains during the measurement period
Denominator	Patients age ≥18 y who have undergone bone scintigraphy to assess for cardiac amyloidosis
Denominator Exclusions	None
Denominator Exceptions	None
Measurement Period	3 mo
Sources of Data	EHR data Paper medical record
Attribution	Individual practitioner Facility
Care Setting	Inpatient Outpatient

Rationale

The cardiac amyloidosis diagnostic algorithm should always begin with a monoclonal protein screen to assess for the presence of a plasma cell disorder and, therefore, supportive evidence for AL-CM. Although cardiac scintigraphy has emerged as a cornerstone of noninvasive diagnosis of ATTR-CM, cardiac uptake that is consistent with ATTR-CM (grade 2 or 3 uptake) may be present in >10% of patients with AL-CM.[104-106] Thus, the obligate first decision point in choosing the appropriate diagnostic pathway is based on the presence or absence of a monoclonal protein.[107-109] A diagnostic pitfall would be to interpret a cardiac scintigraphy scan without a concomitant monoclonal protein screen; a scintigraphy scan alone is neither appropriate nor valid for distinguishing ATTR-CM from AL-CM. Every patient undergoing a scintigraphy scan should first have a diagnostic serum and urine monoclonal protein screen. If the monoclonal protein screen is abnormal, referral to a hematologist is indicated for further evaluation.

Clinical Recommendation(s)

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure[4]

1. Patients for whom there is a clinical suspicion for cardiac amyloidosis*[110-114] should have screening for serum and urine monoclonal light chains with serum and urine immunofixation electrophoresis and serum free light chains.[115] (Class 1, Level of Evidence: B-NR)
2. In patients with high clinical suspicion for cardiac amyloidosis, without evidence of serum or urine monoclonal light chains, bone scintigraphy should be performed to confirm the presence of transthyretin cardiac amyloidosis.[116] (Class 1, Level of Evidence: B-NR)
3. In patients for whom a diagnosis of transthyretin cardiac amyloidosis is made, genetic testing with TTR gene sequencing is recommended to differentiate hereditary variant from wild-type transthyretin cardiac amyloidosis.[117] (Class 1, Level of Evidence: B-NR)

*LV wall thickness ≥14 mm in conjunction with fatigue, dyspnea, or edema, especially in the context of discordance between wall thickness on echocardiogram and QRS voltage on ECG, and in the context of aortic stenosis, HFpEF, carpal tunnel syndrome, spinal stenosis, and autonomic or sensory polyneuropathy.

ACC indicates American College of Cardiology; AHA, American Heart Association; AL-CM, immunoglobulin light chain amyloid cardiomyopathy; ATTR-CM, transthyretin amyloid cardiomyopathy; ECG, electrocardiogram; EHR, electronic health record; HFpEF, heart failure with preserved ejection fraction; HFSA, Heart Failure Society of America; LV, left ventricular; QM, quality measure; and TTR, transthyretin.

APPENDIX B. AUTHOR RELATIONSHIPS WITH INDUSTRY AND OTHER ENTITIES (COMPREHENSIVE)—2024 UPDATE TO THE 2020 ACC/AHA CLINICAL PERFORMANCE AND QUALITY MEASURES FOR ADULTS WITH HEART FAILURE

The Joint Committee makes every effort to avoid actual, potential, or perceived conflicts of interest that could arise as a result of RWI. Detailed information on the ACC/AHA policy on RWI can be found online. All members of the writing committee, as well as those selected to serve as peer reviewers of this document, were required to disclose all current relationships and those existing within the 12 months before the initiation of this writing effort. ACC/AHA policy also requires that the writing committee chair and at least 50% of the writing committee have no relevant RWI.

Any writing committee member who develops new RWI during his or her tenure on the writing committee is required to notify staff in writing. These statements are reviewed periodically by the Joint Committee and by members of the writing committee. Author and peer reviewer RWI that are pertinent to the document are included in the appendixes: Appendix B for comprehensive writing committee RWI and Appendix C for comprehensive peer reviewer RWI. Disclosure information for the Joint Committee is available online.

The work of the writing committee was supported exclusively by the ACC and the AHA without commercial support. Members of the writing committee volunteered their time for this effort. Meetings of the writing committee were confidential and attended only by writing committee members and staff from the ACC, AHA, and the Heart Failure Society of America, which served as a collaborator on this project.

APPENDIX B. CONTINUED

Committee Member	Employment	Consultant	Speakers Bureau	Ownership/ Partnership/ Principal	Personal Research	Institutional, Organizational, or Other Financial Benefit	Expert Witness
Michelle M. Kittleson, *Chair*	Smidt Heart Institute, Cedars-Sinai—Director of Education in Heart Failure and Transplantation; Director of Heart Failure Research; Professor of Medicine	None	Not relevant: ■ Encore Medical Education	None	None	Not relevant: ■ Actelion* ■ Eidos* ■ Gilead/One Legacy/ Baylor* ■ *Journal of Heart and Lung Transplantation*† ■ NIH* ■ Sanofi* ■ United Therapeutics*	None
Khadijah Breathett, *Vice Chair*	Indiana University School of Medicine—Associate Professor of Medicine	None	None	None	Not relevant: ■ HRSA† ■ NIH† ■ Indiana University†	Not relevant: ■ AHA†	None
David Aguilar	LSU Health Science Center New Orleans—Professor, Division of Cardiovascular Medicine	None	None	None	Not relevant: ■ NIH	None	None
Vanessa Blumer	Inova Schar Heart and Vascular Institute—Advanced Heart Failure and Transplant Cardiologist; Medical Co-Director, Heart Failure Outreach; Associate Director, Heart Failure Research	None	None	None	None	Not relevant: ■ Abiomed, CEAC ■ Associate, Executive Committee for the BalanceD-HF trial (Observational/ Educational Member Role, Sponsored by AstraZeneca)	None
Biykem Bozkurt, AHA/ACC HF Guideline Liaison	Baylor College of Medicine and DeBakey VA Medical Center Cardiology Department—Mary and Gordon Cain Chair; W.A. "Tex" and Deborah Moncrief, Jr., Chair; Professor of Medicine Medical Care Line Executive, DeBakey VA Medical Center; Director, Winters Center for Heart Failure Research; Associate Director, Cardiovascular Research Institute; Vice-Chair of Medicine, Baylor College of Medicine	Not relevant: ■ Baxter International Relevant: ■ Abiomed ■ American Regent ■ Amgen ■ Cytokinetics ■ Daiichi Sankyo ■ Johnson & Johnson ■ Merck ■ Regeneron ■ Roche ■ Sanofi-Aventis	None	None	Not relevant: ■ Cardurion (DSMB) ■ LivaNova (DSMB) ■ Renovacor (DSMB) Relevant: ■ Abbott	Not relevant: ■ Abbott, CEAC† ■ AHA/ACC JCCDS‡ ■ AHA/ACC JCPM‡ ■ Cardurion (DSMB) ■ *Circulation* ■ HFSA‡ ■ *JACC*† Relevant: ■ Abbott ■ AstraZeneca ■ Boehringer Ingelheim ■ Relypsa ■ Respicardia/Zoll ■ Vifor Pharma	None
Rebecca L. Diekemper§	AHA/ACC—Science and Health Advisor, Performance Measures	None	None	None	None	Not relevant: ■ AHA/ACC salaried employee	None
Michael P. Dorsch	University of Michigan College of Pharmacy—Assistant Professor of Clinical Pharmacy	None	None	None	None	None	None
Paul A. Heidenreich	Stanford University School of Medicine—Professor and Vice Chair for Quality, Department of Medicine; Chief of Medicine at the VA Palo Alto Health Care System	None	None	None	Not relevant: ■ Gordon and Betty Moore Foundation† ■ U.S. Department of VA†	Not relevant: ■ ICER ■ Palo Alto Veterans Institute for Research‡ ■ U.S. Department of VA†	None
Corrine Y. Jurgens, HFSA Representative	Boston College Connell School of Nursing—Associate Professor and PhD Program Director	None	None	None	None	None	None
Prateeti Khazanie	University of Colorado Medicine—Associate Professor, Medicine-Cardiology	None	None	None	None	None	None
George Augustine Koromia	Firelands Regional Medical Center—Cardiologist	None	None	None	None	None	None

Continued on the next page

APPENDIX B. CONTINUED

Committee Member	Employment	Consultant	Speakers Bureau	Ownership/ Partnership/ Principal	Personal Research	Institutional, Organizational, or Other Financial Benefit	Expert Witness
Harriette G.C. Van Spall	McMaster University—Associate Professor, Department of Medicine (Division of Cardiology); Scientist, Population Health Research Institute; Associate Member, Department of Health Research Methods, Evidence, and Impact; Implementation Science Director, Baim Institute for Clinical Research	Not relevant: ■ Medtronic ■ Regeneron Relevant: ■ Bayer	None	None	Not relevant: ■ CIHR† ■ HSFC†	Relevant: ■ Boehringer Ingelheim† ■ Novartis†	None
Boback Ziaeian, JCPM Liaison	David Geffen School of Medicine at UCLA—Assistant Professor of Medicine	None	None	None	Not relevant: ■ AHA† ■ NIH† ■ Veteran Health Affairs†	None	None

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*This disclosure was entered under the Clinical Trial Enroller category in the ACC's disclosure system. To appear in this category, the author acknowledges that there is no direct or institutional relationship with the trial sponsor as defined in the (ACCF or AHA/ACC) Disclosure Policy for Writing Committees.

†Significant relationship.

‡No financial benefit.

§Rebecca Diekemper is an AHA/ACC joint staff member and acts as the Science and Health Advisor for the ACC/AHA Heart Failure Performance Measures Update. No relevant relationships to report. Non-voting author on measures and not included/counted in the RWI balance for this committee.

ACC indicates American College of Cardiology; ACCF, American College of Cardiology Foundation; AHA, American Heart Association; CEAC, Clinical Event Adjudication Committee; CIHR, Canadian Institute of Health Research; DSMB, data and safety monitoring board; HF, heart failure; HFSA, Heart Failure Society of America; HRSA, Health Resources and Services Administration; HSFC, Heart and Stroke Foundation of Canada; ICER, Institute for Clinical Economic Review; *JACC*, *Journal of the American College of Cardiology*; JCCDS, Joint Committee on Clinical Data Standards; JCPM, Joint Committee on Performance Measures; LSU, Louisiana State University; NIH, National Institutes of Health; RWI, relationships with industry and other entities, UCLA, University of California, Los Angeles; and VA, Veterans Affairs.

APPENDIX C. REVIEWER RELATIONSHIPS WITH INDUSTRY AND OTHER ENTITIES (COMPREHENSIVE)—2024 UPDATE TO THE 2020 ACC/AHA CLINICAL PERFORMANCE AND QUALITY MEASURES FOR ADULTS WITH HEART FAILURE

Reviewer	Representation	Employment	Consultant	Speakers Bureau	Ownership/ Partnership/ Principal	Personal Research	Institutional, Organizational, or Other Financial Benefit	Expert Witness
Amrut Ambardekar	ACC/AHA Content Reviewer	University of Colorado	None	None	None	None	■ Eidos* ■ Ionis*	None
Johanna Contreras	AHA Official Reviewer	Mount Sinai Hospital	■ Alnylam	■ AstraZeneca ■ Boehringer	None	None	■ Novo Nordisk, Inc*	None
William Downey	ACC Official Reviewer	Atrium Health	None	None	None	None	None	None
Mark Drazner	ACC/AHA Content Reviewer	University of Texas Southwestern Medical Center	None	None	None	None	■ HFSA† ■ UpToDate	None
Vernat Exil	AHA Official Reviewer	SSM Health	None	None	None	None	None	None
Savitri E. Fedson	ACC/AHA Content Reviewer	Michael E. Debakey VA Medical Center	None	None	None	None	■ ABIM‡	None
Sula Mazimba	ACC/AHA Content Reviewer	Advent Health	None	None	None	None	None	None
Selma F. Mohammed	ACC/AHA Content Reviewer	CHI Health and Creighton University	None	None	None	None	■ AstraZeneca* ■ Medtronic* ■ NACE‡	None
Tien M.H. Ng	HFSA Official Reviewer	University of Southern California	■ Novartis ■ Synchrony Medical Communications, LLC	None	None	None	None	None
Gurusher Panjrath	JCPM Lead Reviewer	George Washington University	■ American Regent‡ ■ CVRx‡	■ Pfizer‡	None	None	■ Abbott* ■ Ionis*	■ Third party, heart failure related to eye injury, 2022
Orly Vardeny	ACC/AHA Content Reviewer	U.S. Department of Veterans Affairs	■ AstraZeneca ■ Bayer ■ Cardior ■ Moderna	None	None	■ FDA ■ NIH ■ VA	■ Bayer ■ Cardurion	None
Amanda R. Vest	ACC/AHA Content Reviewer	Cleveland Clinic	None	None	None	■ NIH‡	■ CareDx* ■ *Circulation: Heart Failure*† ■ Corvia* ■ *JACC: Heart Failure*†	None
Himabindu Vidula	ACC Official Reviewer	University of Pennsylvania	■ Abbott	None	None	■ NIH‡	■ Abbott‡ ■ ACC‡	None

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*This disclosure was entered under the Clinical Trial Enroller category in the ACC's disclosure system.

†No financial relationship.

‡Significant (>$5,000) relationship.

ABIM indicates American Board of Internal Medicine; ACC, American College of Cardiology; AHA, American Heart Association; CHI, Catholic Health Initiatives; FDA, U.S. Food and Drug Administration; HFSA, Heart Failure Society of America; *JACC*, *Journal of the American College of Cardiology*; JCPM, Joint Committee on Performance Measures; NACE, National Association for Continuing Education; NIH, National Institutes of Health; SSM, Sisters of St. Mary; and VA, Veterans Affairs.