2023 AHA/ACC Clinical Performance and Quality Measures for Coronary Artery Revascularization

Coronary Artery Revascularization Performance Measure Writing Committee Chairs:
Gregory J. Dehmer, MD, MACC, MSCAI, FAHA, *Chair*
Cindy L. Grines, MD, MSCAI, FACC, *Vice Chair*

AHA/ACC Joint Staff:
Abdul R. Abdullah, MD, *National Director, Guideline Science*
Rebecca L. Diekemper, MPH, *Science and Health Advisor, Performance Measures*

Revascularization Performance Measures Writing Committee

- In 2022, a 15-member writing committee was convened to develop a measure set addressing coronary artery revascularization.
- The writing committee was charged with developing new measures to evaluate the use of coronary artery revascularization in accordance with the "2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization."

Gregory J. Dehmer, MD, MACC, MSCAI, FAHA, Chair Cindy L. Grines, MD, MSCAI, FACC, Vice Chair	
Faisal G. Bakaeen, MD	Jennifer Frampton, DO, MPH
Dorian L. Beasley, MD, FACC	Connie N. Hess, MD, MHS, FACC, FAHA, FSCAI
Theresa M. Beckie, PhD, MN, RN, FAHA	Nkechinyere Ijioma, MBBS, FACC, FAHA
Jack Boyd, MD	Jennifer S. Lawton, MD, FAHA
Joaquin E. Cigarroa, MD, FACC, MSCAI	Binita Shah, MD, MS, FACC, FSCAI
Sandeep R. Das, MD, MPH, FACC, FAHA	Nadia R. Sutton, MD, MPH, FACC, FSCAI
Rebecca L. Diekemper, MPH	

Top 10 Take-Home Messages

1. This document describes performance measures for coronary revascularization that are appropriate for public reporting or pay-for-performance programs.
2. This is the first joint American Heart Association/American College of Cardiology document developing measures related to coronary artery revascularization.
3. Most performance measures were developed from the "2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization" and are selected from the strongest recommendations (Class 1 or 3).
4. Quality measures are included as metrics that may be useful for local quality improvement programs but are not yet appropriate for public reporting or pay-for-performance programs.
5. Structural measures are useful to assess infrastructure, systems, and processes of care. Two structural measures were developed. One structural measure is related to the presence and function of the Heart Team and the other structural measure is related to registry participation.

Top 10 Take-Home Messages (Continued)

6. For all measures, if the clinician determines the guideline-recommended care is inappropriate for the patient, that patient is excluded from the measure.
7. For all measures, patients who decline treatment or care are excluded.
8. Where possible, these measures were aligned with those developed by other organizations such as the National Quality Forum, Centers for Medicare & Medicaid Services, and the Society of Thoracic Surgeons.
9. Performance measurement sets serve as vehicles to accelerate translation of scientific evidence into clinical practice and are intended to provide practitioners and institutions with tools to measure the quality of care provided and identify opportunities for improvement.
10. Coronary artery revascularization is not static but continues to evolve as new techniques, therapies, and treatment strategies emerge, which will require ongoing review and revision of these measures.

Changes to Existing Measures

Retired Measures

Select measures from the 2013 performance measures for adults undergoing PCI measure set were retired

Measure No.	Care Setting	Measure Title	Rationale for Retiring the Measure
1	Outpatient, Inpatient	Comprehensive Documentations of Indications for PCI	Captured in EHRs and national databases, but there is subjectivity in the description of symptoms that could affect the indications for PCI.
2	Inpatient, Outpatient	Appropriate Indication for Elective PCI	High rate of capture in EHRs and national databases; included in SDM and informed consent.
3	Inpatient, Outpatient	Assessment of Candidacy for Dual-Antiplatelet Therapy	Outdated; more detailed recommendations exist for different circumstances.
4	Inpatient, Outpatient	Use of Embolic Protection Devices in the Treatment of Saphenous Vein Bypass Graft Disease	No longer Class 1 recommendation; now Class 2a, LOE B-R in 2021 Coronary artery revascularization guideline.
5	Inpatient, Outpatient	Documentation of Preprocedural Glomerular Filtration Rate and Contrast Dose Used During the Procedure	No longer in guidelines; moved to table of best practices.
6	Inpatient, Outpatient	Radiation Dose Documentation	Now required by federal agencies.
7	Inpatient, Outpatient	Postprocedural Optimal Medical Therapy Composite	Optimal medical therapy is difficult to define; variable among individual patients.
10	Inpatient, Outpatient	Annual Operator PCI Volume	Relationship between volume and outcomes is controversial and debated.
11	Inpatient, Outpatient	Annual Hospital PCI Volume	Relationship between volume and outcomes is controversial and debated.

Revised Measures

Select measures from the 2018 cardiac rehabilitation measure set and the 2013 performance measures for adults undergoing PCI were revised

Measure No.	Measure Title	Description of Revision	Rationale for Revision
PM-1 and PM-3 (from the 2018 cardiac rehabilitation measure set)	Cardiac Rehabilitation Patient Referral	Separate recommendation for referral from inpatient and outpatient settings.	Most current recommendations used.
Measure 9 (from the 2013 performance measures for adults undergoing PCI)	Regional or National PCI Registry Participation	Participation from NCDR, STS, VA CART, or other regional or national databases included.	Expanded measure to include both PCI and CABG data.

Summary of Performance, Quality, and Structural Measures

For Coronary Artery Revascularization

Performance Measures

- Developed from Class 1 class of recommendation (COR) and Level A and B level of evidence (LOE) (i.e., strong recommendations based on the highest quality of evidence).
- Designed to be considered for use in national quality payment and reporting programs by entities such as the Centers for Medicare & Medicaid Services (CMS) and the National Committee for Quality Assurance (NCQA).

Quality Measures

- Based on lower ranges of CORs and LOEs.
- Designed to support quality improvement initiatives and activities at the national or microsystem levels.

Structural Measures

- Designed to evaluate the capability and capacity of various levels of the US healthcare system to implement recommended strategies from Clinical Practice Guidelines, such as standardized protocols, electronic health record surveillance, telehealth, team-based care, a single plan of care, and performance measurement.
- Intended for qualitative evaluation of process and infrastructure for these strategies at the care delivery unit (CDU) level (including solo/small physician offices, group practices, health systems, public health sites, accountable care organizations, and clinically integrated networks).

Performance Measures

Measure No.	Measure Title/Description	COR/LOE
Performance Measures		
PM-1	Use of Coronary Physiology	COR: 1, LOE: A
PM-2	DAPT Use With PCI	COR: 1, LOE: B-R; COR: 1, LOE: C-LD
PM-3	Antiplatelets and Anticoagulation After PCI	COR: 1, LOE: B-R
PM-4	P2Y12 Inhibitors With Fibrinolytic Therapy	COR: 1, LOE: C-LD
PM-5	Aspirin in Patients Undergoing CABG	COR: 1, LOE: B-R; COR: 1, LOE: A
PM-6	Lipid Management	COR: 1, LOE: A; COR:1, LOE: B-NR
PM-7	Glycemic Control and CABG Surgery	COR: 1, LOE: B-R
PM-8	Use of the IMA in CABG	COR: 1, LOE: B-NR
PM-9	Patients With Diabetes and Multivessel Disease	COR: 1, LOE: A
PM-10	Arterial Access for PCI	COR: 1, LOE: A
PM-11	Non-Infarct Artery Revascularization in STEMI	COR: 1, LOE: A
PM-12	Non-Infarct PCI in STEMI With Shock	COR: 3 Harm, LOE: B-R
PM-13	Management of Ventricular Arrhythmias	COR: 1, LOE: B-NR
PM-14a	Cardiac Rehabilitation Referral From Inpatient Setting	COR: 1, LOE: A
PM-14b	Cardiac Rehabilitation Referral Outpatient Setting	COR: 1, LOE: A

Quality and Structural Measures

Measure No.	Measure Title/Description	COR/LOE
Quality Measures		
QM-1	Shared Decision-Making and Informed Consent	COR: 1, LOE: C-LD
QM-2	Periprocedural Hydration in Cardiovascular Angiography	COR: 1, LOE: B; COR: 1, LOE: C-LD
QM-3	Smoking Cessation After Revascularization	COR: 1, LOE: A
QM-4	Risk Assessment Before CABG	COR: 1, LOE: B-NR
QM-5	Reduction of Atrial Fibrillation After CABG	COR: 1, LOE: B-R
Structural Measures		
SM-1	Preprocedural Assessment and the Heart Team	COR: 1, LOE: B-NR
SM-2	Registry Participation	COR: 1, LOE: B-NR

Summary

- 15 performance measures
- 5 quality measures
- 2 structural measures
- Measures were selected based on their importance for health, the strength of data supporting the recommendations, existing gaps in patient care, ease of implementation, and risk for unintended consequences.
- Implementation of this measure set by clinicians and health care facilities will enhance safe, cost-efficient, patient-centered, and culturally sensitive care for individual patients.

Revasc Performance Measures Publication

Citations and Links to Revasc Performance Measures Publication

AHA Journal - *Circulation: Cardiovascular Quality and Outcomes*

Dehmer GJ, Grines CL, Bakaeen FG, Beasley DL, Beckie TM, Boyd J, Cigarroa JE, Das S, Diekemper RL, Frampton J, Hess CN, Ijioma N, Lawton JS, Shah B, Sutton NR. 2023 AHA/ACC clinical performance and quality measures for coronary artery revascularization: a report of the American College of Cardiology/American Heart Association Joint Committee on Performance Measures. *Circulation: Cardiovascular Quality and Outcomes.* 2023;16:e000121. doi:10.1161/HCQ.0000000000000121

https://www.ahajournals.org/doi/10.1161/HCQ.0000000000000121

ACC Journal - *Journal of the American College of Cardiology*

Dehmer GJ, Grines CL, Bakaeen FG, et al. 2023 AHA/ACC clinical performance and quality measures for coronary artery revascularization: a report of the American College of Cardiology/American Heart Association Joint Committee on Performance Measures. J Am Coll Cardiol. Published online July 27, 2023.

https://www.jacc.org/doi/10.1016/j.jacc.2023.03.409