Journal of the American College of Cardiology
Vol. 52, No. 24, 2008

ISSN 0735-1097/08/$34.00
Published by Elsevier Inc.
10.1016/j.jacc.2008.10.014

PERFORMANCE MEASURES

ACC/AHA Classification of Care Metrics: Performance Measures and Quality Metrics

A Report of the American College of Cardiology/American Heart Association Task Force on Performance Measures

ACC/AHA TASK FORCE ON PERFORMANCE MEASURES

Robert O. Bonow, MD, MACC, FAHA*; Frederick A. Masoudi, MD, MSPH, FACC, Chair; John S. Rumsfeld, MD, PhD, FACC, FAHA†; Elizabeth DeLong, PhD; N.A. Mark Estes III, MD, FACC, FAHA; David C. Goff, Jr, MD, PhD, FAHA, FACP; Kathleen Grady, PhD, RN, FAHA, FAAN; Lee A. Green, MD, MPH; Ann R. Loth, RN, MS, CNS; Eric D. Peterson, MD, MPH, FACC, FAHA; Ileana L. Piña, MD, FACC‡; Martha J. Radford, MD, FACC, FAHA; David M. Shahian, MD, FACC

Summary. The American College of Cardiology (ACC) and the American Heart Association (AHA) have provided leadership in enhancing the quality of cardiovascular care, including the development of clinical performance measures and clinical registries that permit the evaluation of quality of care and stimulate quality improvement. Compliance with ACC/AHA performance measures and metrics encourages the provision of the strongest evidence-based quality of care, including therapies that are life-extending or life-enhancing. Among quality metrics, only a subset should be considered performance measures—that is, those measures specifically suitable for public reporting, external comparisons, and possibly pay-for-performance programs, in addition to quality improvement. These ***performance measures*** have been developed using ACC/AHA methodology, often in collaboration with other organizations, and include the process of public comment and peer review. ***Quality metrics*** are those measures that have been developed to support self assessment and quality improvement at the provider, hospital, and/or health care system level. These metrics represent valuable tools to aid clinicians and hospitals in improving quality of care and enhancing patient outcomes, but may not meet all specifications of formal performance measures. These quality metrics may also be considered "candidate" measures that with further research of field testing would meet the criteria for formal performance measures in the future. This measure classification is intended to aid providers, hospitals, health systems, and payers in identifying those measures that the ACC and AHA formally endorse as performance measures, while at the same time promoting the broader range of clinical metrics that are useful for quality improvement efforts.

*Former Task Force chair during this writing effort.

†Vice-chair.

‡Former Task Force member during this writing effort.

The American College of Cardiology and the American Heart Association make every effort to avoid any actual or potential conflicts of interest that may arise as a result of an outside relationship or a personal, professional, or business interest of a member of the writing panel. Specifically, all members of the writing group are required to complete and submit a Disclosure Questionnaire showing all such relationships that may be perceived as real or potential conflicts of interest.

This document was approved by the American College of Cardiology Board of Trustees in September 2008 and the American Heart Association Science Advisory and Coordinating Committee in October 2008.

The American College of Cardiology Foundation requests that this document be cited as follows: Bonow RO, Masoudi FA, Rumsfeld JS, Delong E, Estes NAM 3rd, Goff DC Jr, Grady K, Green LA, Loth AR, Peterson ED, Piña IL, Radford MJ, Shahian DM. ACC/AHA classification of care metrics: performance measures and quality metrics: a report of the American College of Cardiology/American Heart Association Task Force on Performance Measures. J Am Coll Cardiol 2008;52:2113–7.

This article has been copublished in *Circulation.*

Copies: This document is available on the World Wide Web sites of the American Heart Association (my.americanheart.org) and the American College of Cardiology (www.acc.org). For copies of this document, please contact Elsevier Inc. reprint department, fax (212) 633-3820, e-mail reprints@elsevier.com.

JACC Vol. 52, No. 24, 2008
December 9, 2008:2113–7

Recognition that the quality of health care in the United States is suboptimal has provoked substantial interest in the development of metrics to assess care quality and to serve as outcome targets for quality improvement initiatives. The ACC and the AHA have provided national leadership in improving the quality of cardiovascular care, including the development of performance measures as well as clinical registries that permit the evaluation of quality metrics. Importantly, not all care metrics carry the same level of strength and rigor. The term *performance measures* will be reserved for selected cardiovascular quality metrics with attributes rendering them suitable for public reporting and for explicit comparisons of care between institutions and/or healthcare providers. This document provides a classification scheme to differentiate care metrics that meet the criteria for performance measures and have been selected by the ACC/AHA Task Force on Performance Measures from those that are intended to support quality improvement but do not meet all the necessary attributes and/or were not selected as ACC/AHA performance measures. For the purposes of clarity in this document, measures not meeting the criteria of performance measures are referred to as *quality metrics*, although in practice, other terms may be used (eg, *quality measures*, *quality improvement measures*, or *test measures*).

Quality metrics, including performance measures, often focus on processes of care for which recommendations in practice guidelines are of adequate strength that the failure to follow the recommendations is likely to result in suboptimal patient outcomes (eg, warfarin for patients with nonvalvular atrial fibrillation, beta blockade after myocardial infarction, angiotensin-converting enzyme inhibitors or angiotensin receptor antagonists for heart failure with left ventricular systolic dysfunction). Compliance with ACC/AHA performance measures and metrics encourages the provision of the strongest evidence-based quality of care, including therapies that are life-extending or life-enhancing. However, quality metrics may also extend beyond processes of care, reflecting structures of care (eg, procedural volume or staffing ratios), efficiency in care delivery (eg, readmission rates after heart failure hospitalization), or patient outcomes (eg, mortality after myocardial infarction).

Among quality metrics, only a subset should be considered performance measures—that is, specifically intended for public reporting, external comparisons, and possibly pay-for-performance programs. The ACC/AHA Task Force on Performance Measures has thus far developed 4 sets of performance measures comprising key processes and/or structural measures of care for heart failure, acute myocardial infarction, cardiac rehabilitation, and atrial fibrillation (1–4). In addition, performance measures for peripheral arterial disease and primary prevention of cardiovascular disease are in development. Measures for stroke care have been separately developed under the oversight of the AHA in collaboration with the American Stroke Association and other organizations. Each of the writing groups from which performance measures have emanated has carefully adhered to the rigorous ACC/AHA methodology of performance measure development (5). The measure development process includes the selection of candidate measures by the writing groups, the evaluation of the extent to which these candidates meet the desired attributes of performance measures, and subsequent public comment, peer review, final review by ACC/AHA Task Force on Performance Measures, and approval by the ACC and AHA. In some cases, the task force may also review metrics developed by external organizations and may endorse these metrics as performance measures based on the extent to which they meet the measures attributes endorsed by the ACC/AHA.

Although an important focus of the Task Force on Performance Measures and the individual writing groups is the development of metrics that are useful to support quality improvement efforts, it is understood that those metrics designated as performance measures may also be used by other organizations for external review or public reporting of performance. Hence it is within the purview of the task force and writing groups to identify the strengths and limitations of each metric and the appropriateness of using metrics for the purposes of public accountability. In some cases, candidate metrics may be deemed as test measures or quality improvement measures that are not felt to be suitable for public reporting because they do not meet the standards of performance measures for public reporting (5), yet may still have critical value for informing local quality improvement and/or may evolve into performance measures (5).

The ACC/AHA Task Force has worked directly with the Physicians Consortium for Performance Improvement (PCPI) of the American Medical Association, the Center for Medicare and Medicaid Services (CMS), the Joint Commission, the National Quality Forum (NQF), and other organizations in identifying those measures that may be suitable for public reporting. The measures developed thus far by the ACC/AHA Task Force have been derived using rigorous methodology and have undergone such extensive peer review and periods of public comment that the ACC and the AHA approve these measures for purposes of public reporting.

At the same time, the ACC and AHA are extensively involved in many other facets of quality improvement, including quality alliances, quality education, and quality improvement registries/programs such as the National Cardiovascular Data Registry (NCDR) (6) and Get With the Guidelines (GWTG) programs (7,8). These initiatives often measure aspects of care and patient outcomes that are intended to assist physicians and hospitals in measuring and improving their care. The GWTG programs have since inception used the terms GWTG performance measures, quality measures, and reporting measures for metrics used by the program and to distinguish the measures used to select hospitals for program recognition. The metrics of these initiatives may include, but are not limited to, the performance measures developed using the rigorous ACC/AHA performance measurement methodology and selected in the measures development process described above.

It is important to emphasize that the ACC and AHA strongly believe in the value of quality metrics that are not designated performance measures as a means of stimulating important improvements in care and outcomes at the physician, hospital, and healthcare system level. Moreover, the ACC/AHA Task Force on Performance Measures may ultimately select such quality metrics as performance measures after adequate evalua-

tion. However, such quality metrics may not currently meet all of the standards necessary to deem them performance measures.

To date, there has not been a clear designation of which metrics that arise from various quality initiatives of the ACC and AHA represent performance measures versus quality improvement metrics. The ACC and AHA thereby strongly recommend that only metrics for cardiovascular disease that have been developed formally using the published ACC/AHA performance measure methodology (5,9) and measures development process be designated as ACC/AHA performance measures. The ACC/AHA may also identify selected metrics developed by external organizations for endorsement as performance measures.

To distinguish between cardiovascular performance measures and other quality metrics, the ACC/AHA Task Force on Performance Measures has adopted the following classification:

> Performance Measures are those process, structure, efficiency, or outcome measures that have been developed using ACC/AHA methodology, including the process of public comment and peer review (5,9), and have been specifically designated as performance measures by the ACC/AHA Task Force on Performance Measures. This may occur in collaboration with PCPI, CMS, the Joint Commission, and/or NQF. These measures are intended not only for clinical quality improvement but also may be considered for purposes of public reporting or other forms of accountability.
>
> Quality Metrics are those measures that have been developed to support self-assessment and quality improvement at the provider, hospital, and/or healthcare system level. These metrics may not have been formally developed using the ACC/AHA performance measure methodology, though they may be identified as "preliminary," "candidate," "test," "evolving," or "quality" measures that may be worthy of consideration for further development into performance measures. In the course of their work, writing groups may identify measures that do not meet the strict criteria for performance measures and identify such measures as "quality metrics." However, these metrics may also be developed by other components of the ACC or AHA to support quality initiatives, such as NCDR or GWTG. These metrics thereby represent valuable tools to aid clinicians and hospitals in improving quality of care and enhancing patient outcomes but may not meet all specifications of formal performance measures. These quality metrics may also be considered "candidate" measures that, with further research or field testing, would meet the criteria for formal performance measures in the future.

This measure classification is intended to aid providers, hospitals, health systems, and payers in identifying those measures that the ACC and AHA formally endorse as performance measures, while at the same time promoting the broader range of clinical metrics that are useful for quality improvement efforts. This classification has undergone peer review and approval by content reviewers of the ACC and AHA and by leadership of NCDR and GWTG and has been approved by the Board of Trustees of the ACCF and the Science Advisory and Coordinating Committee of the AHA. The ACC/AHA Task Force on Performance Measures will work closely with other ACC and AHA quality initiatives as well as external bodies to carefully examine and evaluate measures individually with regard to their designation as performance measures or quality metrics.

Staff

American College of Cardiology Foundation
John C. Lewin, MD, Chief Executive Officer
Charlene May, Senior Director, Science and Clinical Policy
Melanie Shahriary, RN, BSN, Associate Director, Performance Measures and Data Standards
Erin A. Barrett, Senior Specialist, Science and Clinical Policy

American Heart Association
M. Cass Wheeler, Chief Executive Officer
Rose Marie Robertson, MD, FACC, FAHA, Chief Science Officer
Gayle R. Whitman, PhD, RN, FAHA, FAAN, Senior Vice President, Office of Science Operations
Anne Leonard, RN, MPH, Science and Medicine Advisor

Appendix A. Author Relationships With Industry and Other Entities: ACC/AHA Classification of Care Metrics: Performance Measures and Quality Metrics

Name	Research Grant	Speakers' Bureau/Honoraria/Expert Witness	Stock Ownership/Equity Interests	Consultant/Advisory Board/Steering Committee
Robert O. Bonow	None	None	None	Edwards Lifesciences
Elizabeth DeLong	None	None	None	None
N.A. Mark Estes III	None	Boston Scientific Medtronic St. Jude Medical	None	None
David C. Goff, Jr	None	None	None	None
Kathleen Grady	None	None	None	None
Lee A. Green	None	None	None	None
Ann R. Loth	None	None	None	None
Frederick A. Masoudi	Amgen*	Amgen Takeda UnitedHealth	None	None
Eric D. Peterson	Bristol Myers-Squibb/Sanofi-Aventis* Corgentech CV Therapeutics Merck* Schering Plough*	Genentech	None	None
Ileana L. Piña	None	AstraZeneca GlaxoSmithKline Novartis	None	None
Martha J. Radford	None	None	None	None
John S. Rumsfeld	None	St. Jude Medical	None	Northfield Labs United Healthcare
David M. Shahian	None	None	None	None

This table represents the relationships of committee members with industry and other entities that were reported by the authors as relevant to this topic during the document development process. It does not necessarily reflect relationships with industry at the time of publication. A person is deemed to have a significant interest in a business if the interest represents ownership of 5% or more of the voting stock or share of the business entity or ownership of $10 000 or more of the fair market value of the business entity, or if funds received by the person from the business entity exceed 5% of the person's gross income for the previous year. A relationship is considered to be modest if it is less than significant under the preceding definition. Relationships in this table are modest unless otherwise noted.

ACC indicates American College of Cardiology; and AHA, American Heart Association.

*Significant (greater than $10 000) relationship.

Appendix B. Peer Reviewer Relationships With Industry and Other Entities: ACC/AHA Classification of Care Metrics: Performance Measures and Quality Metrics

Name	Representation	Research Grant	Speakers' Bureau/Honoraria/Expert Witness	Stock Ownership/Equity Interests	Consultant/Advisory Board/Steering Committee
Nancy M. Albert	Official Reviewer—AHA–Get With the Guidelines Program	None	None	None	None
Gregg C. Fonarow	Official Reviewer—AHA–Get With the Guidelines Program	GlaxoSmithKline* Medtronic* Pfizer*	AstraZeneca* GlaxoSmithKline* Medtronic* Merck-Schering Plough* Pfizer*	None	None
Eric Smith	Official Reviewer—AHA–Get With the Guidelines Program	None	None	None	None
Stuart Winston	Official Reviewer—ACCF Board of Governors	Boston Scientific Medtronic	Boston Scientific	None	None
Ralph Brindis	Content Reviewer—ACCF-NCDR Management Board	None	None	None	None
Gregory Dehmer	Content Reviewer—ACCF-NCDR Management Board	None	None	None	None
James T. Dove	Content Reviewer—ACCF-NCDR Management Board	None	None	None	None
Charles R. McKay	Content Reviewer—ACCF-NCDR Management Board	None	None	None	None
W. Douglas Weaver	Content Reviewer—ACCF-NCDR Management Board	Procter & Gamble Schering Plough	None	Accorn Cardiovascular	American Heart Association—Detroit Affiliate Board of Trustees
William Weintraub	Content Reviewer—ACCF-NCDR Management Board	None	None	None	None

This table represents the relationships of peer reviewers with industry and other entities that were reported as relevant to this topic during the document development process. It does not necessarily reflect relationships at the time of publication. Names are listed in alphabetical order within each category of review. Participation in the peer review process does not imply endorsement of this document. A person is deemed to have a significant interest in a business if the interest represents ownership of 5% or more of the voting stock or share of the business entity, ownership of $10 000 or more of the fair market value of the business entity, or if funds received by the person from the business entity exceed 5% of the person's gross income for the previous year. A relationship is considered to be modest if it is less than significant under the preceding definition. Relationships in this table are modest unless otherwise noted.

ACC indicates American College of Cardiology; AHA, American Heart Association; and NCDR, National Cardiovascular Data Registry.

*Significant (greater than $10 000) relationship.

References

1. Bonow RO, Bennett S, Ganiats TG, et al. ACC/AHA clinical performance measures for adults with chronic heart failure: a report of the American College of Cardiology/American Heart Association Task Force on Performance Measures (Writing Committee to Develop Heart Failure Clinical Performance Measures). J Am Coll Cardiol. 2005;46:1144–78.
2. Krumholz HM, Anderson JL, Brooks NH, et al. ACC/AHA clinical performance measures for adults with ST-elevation and non–ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Performance Measures (Writing Committee to Develop Performance Measures on ST-Elevation and Non–ST-Elevation Myocardial Infarction). J Am Coll Cardiol. 2006;47:236–65.
3. Thomas RJ, King M, Lui K, et al. AACVPR/ACC/AHA 2007 performance measures on cardiac rehabilitation for referral to and delivery of cardiac rehabilitation/secondary prevention services. J Am Coll Cardiol. 2007;50:1400–33.
4. Estes NA 3rd, Halperin JL, Calkins H, et al. ACC/AHA/Physician Consortium 2008 clinical performance measures for adults with nonvalvular atrial fibrillation or atrial flutter: a report of the American College of Cardiology/American Heart Association Task Force on Performance Measures and the Physician Consortium for Performance Improvement (Writing Committee to Develop Clinical Performance Measures for Atrial Fibrillation). J Am Coll Cardiol. 2008;51:865–84.
5. Spertus JA, Eagle KA, Krumholz HM, et al. American College of Cardiology and American Heart Association methodology for the selection and creation of performance measures for quantifying the quality of cardiovascular care. J Am Coll Cardiol. 2005;45:1147–56.
6. Anderson HV, Shaw RE, Brindis RG, et al. A contemporary overview of percutaneous coronary interventions: the American College of Cardiology–National Cardiovascular Data Registry (ACC–NCDR). J Am Coll Cardiol. 2002;39:1096–103.
7. LaBresh KA, Ellrodt AG, Gliklich R, et al. Get with the guidelines for cardiovascular secondary prevention: pilot results. Arch Intern Med. 2004;164:203–9.
8. LaBresh KA, Fonarow GC, Smith SC Jr, et al. Improved treatment of hospitalized coronary artery disease patients with the get with the guidelines program. Crit Path Cardiol. 2007;6:98–105.
9. Krumholz HM, Brindis RG, Brush JE, et al. Standards for statistical models used for public reporting of health outcomes: an American Heart Association Scientific Statement from the Quality of Care and Outcomes Research Interdisciplinary Writing Group. Circulation. 2006;113:456–62.

KEY WORDS: ACC/AHA Performance Measures ■ performance measurement ■ quality metrics