Clinical Performance Measures

Chronic Stable Coronary Artery Disease

Tools Developed by Physicians for Physicians

Provided by:

American College of Cardiology
American Heart Association
Physician Consortium for Performance Improvement

Purpose

This measurement tool provides physicians with *evidence-based*¹ clinical performance measures, including a data collection flowsheet, that may be useful for quality improvement activities within physician practices. The ability to track changes over time is integral to the concept of continuous quality improvement in patient care. Evidence-based clinical performance measures have been identified as a means for tracking these changes.

These measures are provided for physicians by the American College of Cardiology (ACC), the American Heart Association (AHA), and the Physician Consortium for Performance Improvement™ (Consortium). The ACC, a professional society of over 25,000 cardiovascular physicians and scientists committed to providing optimal cardiovascular care, and the AHA, a national voluntary health organization with over 30,000 scientist and physician volunteers dedicated to reducing disability and death from cardiovascular diseases and stroke, have joined with the Consortium to ensure that the cardiovascular community speaks with one voice on clinical performance measurement. The ACC and the AHA have a long-standing partnership in publishing clinical practice guidelines and are now developing physician-level performance measures for implementation in both the inpatient and outpatient setting.

The Consortium is a physician-led initiative that includes methodological experts, clinical experts representing more than 70 national medical specialty societies, state medical societies, the Agency for Healthcare Research and Quality, and the Centers for Medicare and Medicaid Services. The Consortium's vision is to fulfill the responsibility of physicians to patient care, public health, and safety by becoming the leading source organization for evidence-based clinical performance measures and outcomes reporting tools for physicians.

Performance measures must be designed based on their intended purpose.^{2,3} The measures presented here are intended to facilitate individual physician quality improvement. Therefore, there are no minimum sample size requirements, and the suggested feedback is sufficiently detailed to pinpoint areas of concern for the physician (eg, lipid profile test values per patient). The measures defined in this measurement tool are not intended, and should not be used, for physician comparison.⁴

Physician Performance Measures (Measures) and related data specifications, developed by the Physician Consortium for Performance Improvement (the Consortium), are intended to facilitate quality improvement activities by physicians.

These Measures are intended to assist physicians in enhancing quality of care. Measures are designed for use by any physician who manages the care of a patient for a specific condition or for prevention. These performance Measures are not clinical guidelines and do not establish a standard of medical care. The Consortium has not tested its Measures for all potential applications. The Consortium encourages the testing and evaluation of its Measures.

Measures are subject to review and may be revised or rescinded at any time by the Consortium. The Measures may not be altered without the prior written approval of the Consortium. Measures developed by the Consortium, 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 American Medical Association, on behalf of the Consortium. Neither the Consortium nor its members shall be responsible for any use of these Measures.

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

Performance measures are not clinical guidelines; rather, measures are derived from evidence-based clinical guidelines and indicate whether or not or how often a process or outcome of care occurs.² Performance measures provide important information to a physician, allowing him or her to enhance the quality of care delivered to patients.

Statistics on Chronic Stable Coronary Artery Disease

Chronic stable coronary artery disease (CAD) is the leading cause of mortality in the United States, accounting for almost 1 in 5 deaths.⁵

- Approximately 13 million Americans are living with CAD.⁵
- More than 1 million Americans had a new or recurrent coronary attack in 2001.⁵
- Within the past 2 decades, the number of short-stay hospital discharges for individuals with CAD increased by almost 18%.⁵
- The total annual cost of CAD in the United States is approximately \$130 billion.⁵

For individuals with CAD, the risk of another heart attack, stroke, and other serious complications is substantial.

Statistics on Current Practice

Despite potential risks and established clinical guidelines, recent data suggest that some patients are not being managed optimally for this disease. It has been reported that in some states:

- Less than 50% of Medicare patients hospitalized for acute myocardial infarction (AMI) received counseling for smoking cessation.⁶
- Only 79% of Medicare patients hospitalized for AMI were prescribed a beta-blocker on discharge.⁶
- Only 74% of Medicare patients hospitalized for AMI were prescribed angiotensin-converting enzyme (ACE) inhibitor therapy on discharge.⁶

Selected Evidence-Based Clinical Guidelines

Evidence-based clinical practice guidelines are available for the management of CAD. This measurement set is based on clinical guidelines from the following:

- American College of Cardiology/American Heart Association (ACC/AHA)^{8-10,16}
- American College of Cardiology/American Heart Association/ American College of Physicians-American Society of Internal Medicine⁷
- American College of Endocrinology¹⁴
- American Diabetes Association¹³
- National Heart, Lung, and Blood Institute^{11,17}

The performance measures found in this document have been developed in agreement with these guidelines, enabling the physician to track his or her performance in individual patient care and across patient populations. Please note that treatment must be based on individual patient needs and professional judgment.

For more information and updates, including a list of practicing physicians and other experts who developed this measurement set, please visit the Consortium's Web site

www.physicianconsortium.org

Relevant Physician Specialties, Patient Population, and Settings of Care

These performance measures are designed for:

 Use by any physician who manages the ongoing care of patients (aged ≥ 18 years) with CAD.

American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement Chronic Stable Coronary Artery Disease Physician Performance Measurement Set^a

	Clinical Recommendations	Clinical Performance Measures Per Rep	orting Year	
Blood Pressure Measurement	A blood pressure reading is recommended at every visit. ¹⁷ Recommended blood pressure management targets are ≤130 mm Hg systolic (Class I Recommendation, Level-A Evidence) ⁷ and ≤85 mm Hg diastolic in patients with CAD and coexisting conditions (eg, diabetes, heart failure, or renal failure) and <140/90 mm Hg in patients with CAD and no coexisting conditions. ^{7.17}	Percentage of patients who had a blood pressure measurement during the last office visit Numerator = Patients who had a blood pressure measurement during the last office visit Denominator = All patients with CAD		
		Per Patient: Most recent systolic and diastolic blood pressure measurement ^b	Per Patient Population: Percentage of patients who had a blood pressure measurement during the last office visit Percentage of patients with last blood pressure measurement: <140/90 mm Hg Distribution of most recent blood pressure values by range (mm Hg): ^b Systolic: <120, 120-129, 130-139, 140-149, 150-159, 160-169, 170-179, ≥180, undocumented Diastolic: <75, 75-79, 80-89, 90-99, 100-109, ≥110, undocumented	
Lipid Profile	A lipid profile is recommended and should include total cholesterol, high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), and triglycerides. ^{7,9} (Class I Recommendation, Level-C Evidence) ⁷	Percentage of patients who received at least one lipid profile (or ALL component tests) Numerator = Patients who received at least one lipid profile (or ALL component tests) Denominator = All patients with CAD		
		Per Patient: Whether or not a lipid profile was obtained Most recent total cholesterol, HDL-C, LDL-C, and triglycerides test results	Per Patient Population: Percentage of patients who received at least one lipid profile (or ALL component tests) Distribution of percentage of patients with the most recent test results in the following ranges: Total cholesterol: ≥240, 200-239, <200, undocumented LDL-C: ≥160, 130-159, 100-129, <100, undocumented HDL-C: <40, 40-49, 50-59, ≥60, undocumented Triglycerides: ≥400, 200-399, <200, 150-199, <150, undocumented	
Symptom & Activity Assessment	Regular assessment of patients' anginal symptoms and levels of activity is recommended. ⁷ (Serves as a basis for treatment modification)	Percentage of patients who were evaluated for both level of activity and anginal symptoms during one or more office visits Numerator = Patients evaluated for both level of activity and anginal symptoms during one or more office visits Denominator = All patients with CAD		
		Per Patient: Whether or not patient's level of activity and anginal symptoms were evaluated during office visit	Per Patient Population: Percentage of patients who were evaluated for both level of activity and anginal symptoms during one or more office visits	
Smoking Cessation	Smoking status should be determined and smoking cessation counseling and interventions are recommended. ⁷⁻¹⁰ (Class I Recommendation, Level-B Evidence) ⁷	Percentage of patients who were queried one or more times about cigarette smoking Numerator = Patients who were queried one or more times about cigarette smoking Denominator = All patients with CAD Percentage of patients identified as cigarette smokers who received smoking cessation intervention Numerator = Patients who received smoking cessation intervention		
		Per Patients who received smoking a Denominator = All patients with CAD identified a Per Patient: Whether or not patient was queried one or more times about cigarette smoking Whether or not patient identified as cigarette smoker received intervention for smoking cessation		

American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement Chronic Stable Coronary Artery Disease Physician Performance Measurement Set^a

	Clinical Recommendations	Clinical Performance Measures Per Rep	orting Year	
Antiplatelet Therapy Denominator Exclusion: Documentation	Routine use of aspirin is recommended in the absence of contraindications. If contraindications exist, other antiplatelet therapies may be substituted. ⁷⁻¹⁰ (Class I Recommendation, Level-A Evidence) ⁷	Percentage of patients who were prescribed antiplatelet therapye Numerator = Patients who were prescribed antiplatelet therapy Denominator = All patients with CAD		
for not prescribing may antiplatelet therapy; (Clas		Per Patient: Whether or not patient was prescribed antiplatelet therapy	Per Patient Population: Percentage of all patients who were prescribed antiplatelet therapy Percentage of patients who were prescribed antiplatelet therapy, with all denominator exclusions applied	
Drug Therapy for Lowering LDL-Cholesterol Denominator Exclusion:	The LDL-C treatment goal is <100 mg/dl. Persons with established coronary heart disease (CHD) who have a baseline LDL-C ≥130 mg/dl	Percentage of patients who were prescribed lipid-lowering therapy (based on current ACC/AHA guidelines) Numerator = Patients who were prescribed lipid-lowering therapy Denominator = All patients with CAD		
Documentation of medical reason(s)° for not prescribing lipid-lowering therapy; documentation of patient reason(s) ^d for not prescribing lipid-lowering therapy		Per Patient: Whether or not patient was prescribed lipid-lowering therapy	Per Patient Population: Percentage of all patients who were prescribed lipid-lowering therapy Percentage of patients who were prescribed lipid-lowering therapy, with all denominator exclusions applied	
Beta-Blocker Therapy — Prior Myocardial Infarction (MI)	Beta-blocker therapy is recommended for all patients with prior MI in the absence of contraindications. ⁷⁻⁹	Percentage of CAD patients with prior MI who were prescribed beta-blocker therapy Numerator = Patients who were prescribed beta-blocker therapy Denominator = All patients with CAD who also have prior MI		
Denominator Inclusion: Prior MI Denominator Exclusion: Documentation of medical reason(s) ^c for not prescribing a beta-blocker; documentation of patient reason(s) ^d for not prescribing a beta-blocker	Per Patient: Whether or not patient with prior MI was prescribed beta-blocker therapy	Per Patient Population: Percentage of all patients with prior MI who were prescribed beta-blocker therapy Percentage of patients with prior MI who were prescribed beta-blocker therapy, with all denominator exclusions applied		

American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement Chronic Stable Coronary Artery Disease Physician Performance Measurement Set^a

	Clinical Recommendations	Clinical Performance Measures Per Reporting Year		
ACE Inhibitor or ARB Therapy Denominator Inclusion: Patients with CAD who also have diabetes and/or left ventricular systolic dysfunction (LVSD) (left ventricular ejection fraction [LVEF] < 40% or moderately or severely depressed left ventricular systolic function) Denominator Exclusion: Documentation of medical reason(s)° for not prescribing ACE inhibitor and for not prescibing ARB therapy; documentation of patient reason(s)d for not prescribing ACE inhibitor and for not prescribing ARB therapy	ACE inhibitor use is recommended in all patients with CAD who also have diabetes and/or LVSD (Class I Recommendation, Level-A Evidence) ¹⁶ ACE inhibitor use is also recommended in patients with CAD or other vascular disease (Class IIa Recommendation, Level-B Evidence) ¹⁶ In ST-elevation myocardial infarction (STEMI) patients who tolerate ACE inhibitors, an angiotensin receptor blocker (ARB) can be useful as an alternative to ACE inhibitors in the long-term management of STEMI patients, provided there are either clinical or radiological signs of heart failure or LVEF less than 0.40 (Class IIa Recommendation, Level-B Evidence) ¹⁸	Percentage of CAD patients who also have dia ACE inhibitor or ARB therapy Numerator = Patients who were prescribed ACE Denominator = All patients with CAD who also have discontinuous percentage. Per Patient: Whether or not patient with diabetes and/or LVSD was prescribed ACE inhibitor or ARB therapy	inhibitor or ARB therapy	
Screening for Diabetes Denominator Exclusion: Patients with documented diabetes	Screening for diabetes is recommended in patients who are considered high risk (eg, CAD) ¹³⁻¹⁵ (Class I Recommendation, Level-A Evidence) ¹⁵	Percentage of patients who were screened for diabetes Numerator = Patients who were screened for diabetes' Denominator = All patients with CAD who do not have documented diabetes Per Patient: Whether or not patient was screened for diabetes Per Patient Population: Percentage of patients who were screened for diabetes		

- a Refers to all patients diagnosed with CAD.
- b If BP measurement is repeated during the visit in the same arm and the same position, use the last BP reading. If the sequence of readings is unknown, use the lowest BP reading.
- c Medical reasons for not prescribing **antiplatelet therapy** (aspirin, clopidogrel, or combination of aspirin and dipyridamole): active bleeding in the previous six months which required hospitalization and/or transfusion(s), patient on other antiplatelet therapy, or other medical reason(s).
 - Medical reasons for not prescribing lipid-lowering therapy: clinical judgment, documented LDL-C <130, or other medical reason(s).
 - Medical reasons for not prescribing a **beta-blocker**: bradycardia (defined as heart rate <50 bpm without beta-blocker therapy), history of Class IV (congestive) heart failure, history of second- or third-degree atrioventricular (AV) block without permanent pacemaker, or other medical reason(s).
 - Medical reasons for not prescribing **ACE inhibitor (ACEI)**: allergy, angioedema due to ACEI, anuric renal failure due to ACEI, pregnancy, moderate or severe aortic stenosis, or other medical reason(s).
- d Patient reasons for not prescribing antiplatelet therapy, statin, beta-blocker, or ACEI: economic, social, and/or religious, or other patient reason(s).
- e Antiplatelet therapy may include aspirin, clopidogrel, or combination of aspirin and dipyridamole.
- f Screening for diabetes is usually done by fasting blood glucose or 2-hour glucose tolerance testing. Clinical recommendations indicate screening should be considered at 3-year intervals.

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American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement Chronic Stable Coronary Artery Disease Physician Performance Measurement Set Data Collection Flowsheet

FIUV	der No Patie	ent Name or Gode		(mm / dd / yyyy)	_ Gender M U F U
	lical History (Select all that ABG □ Myoca TCA □ Stable	ardial □ Diabetes tion	□ Left ventricular systol dysfunction (LVEF < 4) moderately or severe depressed LV systolic	0% or	
Monitoring	Date (mm/dd/yyyy)				
	Weight (lb/kg)	□ Unable to weigh	□ Unable to weigh	□ Unable to weigh	□ Unable to weigh
	Pulse				
	Blood Pressure	L R	L R	L R	L R
Laboratory	Lipid Profile (mg/dl): Total Cholesterol	Juliana Suprito Standing	ouning capito outling	orang output orang	ouning capino ouniung
	HDL-C				
	LDL-C				
	Triglycerides				
	Screening for Diabetes	□ Screened® □ Not applicable	□ Screened® □ Not applicable	□ Screened ^a □ Not applicable	□ Screened ^a □ Not applicable
Symptom & Activity Assessment	Level of Activity				
	Anginal Symptoms AND/OR				
	Grading of Angina by the CCSC System ^b AND/OR	1 / II / III / IV	1 / II / III / IV	1 / 11 / 111 / IV	1 / 11 / 111 / IV
	Patient Completed Symptom and/or Activity Questionnaire	Y or N	Y or N	Y or N	Y or N

- a Screening for diabetes is usually done by fasting blood glucose or 2-hour glucose tolerance testing. Clinical recommendations indicate screening should be considered at 3-year intervals.
- b Grading of Angina Pectoris by the Canadian Cardiovascular Society Classification (CCSC) System⁷

Class I: Ordinary physical activity does not cause angina, such as walking, climbing stairs. Angina (occurs) with strenuous, rapid or prolonged exertion at work or recreation

Class II: Slight limitation of ordinary activity. Angina occurs on walking or climbing stairs rapidly, walking uphill, walking or stair climbing after meals, or in cold, or in wind, or under emotional stress, or only during the few hours after awakening. Angina occurs on walking more than 2 blocks on the level and climbing more than one flight of ordinary stairs at a normal pace and in normal conditions

Class III: Marked limitations of ordinary physical activity. Angina occurs on walking one to two blocks on the level and climbing one flight of stairs in normal conditions and at a normal pace

Class IV: Inability to carry on any physical activity without discomfort – anginal symptoms may be present at rest

c Questionnaire may include Seattle Angina Questionnaire (SAQ)12

American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement Chronic Stable Coronary Artery Disease Physician Performance Measurement Set Data Collection Flowsheet

Provider No Patient Name or Code					
Adverse Drug Reactions:					
		1			
Smoking	Date of Visit (mm/dd/yyyy)				
	Smoker	Y or N	Y or N	Y or N	Y or N
	Intervention:				
	Counseling	Y or N	Y or N	Y or N	Y or N
	Pharmacologic	Y or N	Y or N	Y or N	Y or N
nent	Antiplatelet Therapy	□Prescribed	□Prescribed	□Prescribed	□Prescribed
		□ Not prescribed (medical reasons*)	□ Not prescribed (medical reasons*)	□ Not prescribed (medical reasons*)	□ Not prescribed (medical reasons*)
		□ Not prescribed (patient reasons*)	□ Not prescribed (patient reasons*)	□ Not prescribed (patient reasons*)	□ Not prescribed (patient reasons*)
		□ Prescribed	□ Prescribed	□Prescribed	□Prescribed
	LDL-C Lowering Therapy	□ Not prescribed (medical reasons*)			
		□ Not prescribed (patient reasons*)	□ Not prescribed (patient reasons*)	□ Not prescribed (patient reasons*)	□ Not prescribed (patient reasons*)
anage		□ Prescribed	□ Prescribed	□Prescribed	□ Prescribed
Medication Management	Beta-Blocker Therapy	□ Not prescribed (medical reasons*)	☐ Not prescribed (medical reasons*)	□ Not prescribed (medical reasons*)	□ Not prescribed (medical reasons*)
		□ Not prescribed (patient reasons*)			
2		□ Prescribed	□ Prescribed	□Prescribed	□ Prescribed
	ACE Inhibitor or	□ Not prescribed (medical reasons*)			
	ARB Therapy	□ Not prescribed (patient reasons*)			
	*Specify medical (eg, allergy, contraindication) or patient (eg, economic, social, religious) reasons for not prescribing therapy:				
Other Medications					
)ther					
0					
		I.	1	1	1