

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 measures and flowsheet are intended for prospective data collection only. 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 (The 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 50 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

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.

This Physician Performance Measurement Set (PPMS) was developed by the Physician Consortium for Performance Improvement (The Consortium) to facilitate quality improvement activities by physicians. The performance measures contained in this PPMS are not clinical guidelines and do not establish a standard of medical care. This PPMS is intended to assist physicians in enhancing quality of care and is not intended for comparing individual physicians to each other or for individual physician accountability by comparing physician performance against the measure or guideline. The Consortium has not tested this PPMS.

This PPMS is subject to review and may be revised or rescinded at any time by The Consortium. The PPMS may not be altered without the prior written approval of The Consortium. A PPMS developed by The Consortium, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes. Any other use is subject to the approval of The Consortium. Neither The Consortium nor its members shall be responsible for any use of this PPMS. Clinical measures and data are being provided in accordance with the Data Rights Agreement between the Centers for Medicare & Medicaid Services and the American Medical Association.

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.ama-assn.org/go/quality

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 with CAD.
- Prospective data collection in the office-based practice setting only.

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

	Clinical Recommendations	Clinical Performance Measures Per Reporting 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	
		<i>Per Patient:</i> Most recent systolic and diastolic blood pressure measurement	<i>Per Patient Population:</i> 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): 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	
		<i>Per Patient:</i> Whether or not a lipid profile was obtained Most recent total cholesterol, HDL-C, LDL-C, and triglycerides test results	<i>Per Patient Population:</i> 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	
		<i>Per Patient:</i> Whether or not patient's level of activity and anginal symptoms were evaluated during office visit	<i>Per Patient Population:</i> 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 Denominator = All patients with CAD identified as cigarette smokers	
		<i>Per Patient:</i> 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	<i>Per Patient Population:</i> Percentage of patients who were queried one or more times about cigarette smoking Percentage of patients identified as cigarette smokers who received intervention for smoking cessation

**American College of Cardiology, American Heart Association, and
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	Clinical Recommendations	Clinical Performance Measures Per Reporting Year	
Antiplatelet Therapy <i>Denominator Exclusion:</i> Documentation of medical reason(s) ^b for not prescribing antiplatelet therapy; documentation of patient reason(s) ^c for not prescribing antiplatelet therapy	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 therapy ^d Numerator = Patients who were prescribed antiplatelet therapy Denominator = All patients with CAD	
		<i>Per Patient:</i> Whether or not patient was prescribed antiplatelet therapy	<i>Per Patient Population:</i> 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 <i>Denominator Exclusion:</i> Documentation that a statin was not indicated; ^e documentation of medical reason(s) ^b for not prescribing a statin; documentation of patient reason(s) ^c for not prescribing a statin	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 should be started on a cholesterol-lowering drug simultaneously with therapeutic lifestyle changes and control of nonlipid risk factors. ¹¹ (Class I Recommendation, Level-A Evidence) ¹¹	Percentage of patients who were prescribed a statin (based on current ACC/AHA guidelines) Numerator = Patients who were prescribed a statin Denominator = All patients with CAD	
		<i>Per Patient:</i> Whether or not patient was prescribed a statin	<i>Per Patient Population:</i> Percentage of all patients who were prescribed a statin Percentage of patients who were prescribed a statin, with all denominator exclusions applied
Beta-Blocker Therapy – Prior Myocardial Infarction (MI) <i>Denominator Inclusion:</i> Prior MI <i>Denominator Exclusion:</i> Documentation that a beta-blocker was not indicated; documentation of medical reason(s) ^b for not prescribing a beta-blocker; documentation of patient reason(s) ^c for not prescribing a beta-blocker	Beta-blocker therapy is recommended for all patients with prior MI in the absence of contraindications. ⁷⁻⁹ (Class I Recommendation, Level-A Evidence) ⁷	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	
		<i>Per Patient:</i> Whether or not patient with prior MI was prescribed beta-blocker therapy	<i>Per Patient Population:</i> 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

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	Clinical Recommendations	Clinical Performance Measures Per Reporting Year	
ACE Inhibitor Therapy <i>Denominator Inclusion:</i> 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) <i>Denominator Exclusion:</i> Documentation that ACE inhibitor was not indicated (eg, patients on angiotensin receptor blockers [ARB]); documentation of medical reason(s) ^b for not prescribing ACE inhibitor; documentation of patient reason(s) ^c for not prescribing ACE inhibitor	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	Percentage of CAD patients who also have diabetes and/or LVSD who were prescribed ACE inhibitor therapy Numerator = Patients who were prescribed ACE inhibitor therapy Denominator = All patients with CAD who also have diabetes and/or LVSD	
		<i>Per Patient:</i> Whether or not patient with diabetes and/or LVSD was prescribed ACE inhibitor therapy	<i>Per Patient Population:</i> Percentage of all (including patients on ARBs) patients with diabetes and/or LVSD who were prescribed ACE inhibitor therapy Percentage of patients with diabetes and/or LVSD who were prescribed ACE inhibitor therapy, with all denominator exclusions applied
Screening for Diabetes^f <i>Denominator Exclusion:</i> 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 ^g Denominator = All patients with CAD who do not have documented diabetes	
		<i>Per Patient:</i> Whether or not patient was screened for diabetes	<i>Per Patient Population:</i> Percentage of patients who were screened for diabetes

- a Refers to all patients diagnosed with CAD.
- b 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, etc.
 Medical reasons for not prescribing a **statin**: clinical judgment, documented LDL-C <130, etc.
 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, etc.
 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, etc.
- c Patient reasons for not prescribing antiplatelet therapy, statin, beta-blocker, or ACEI: economic, social, and/or religious, etc.
- d Antiplatelet therapy may include aspirin, clopidogrel, or combination of aspirin and dipyridamole.
- e Not indicated for a statin refers to LDL-C <100.
- f **Test measure.**
- g 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.

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

Provider No. _____ Patient Name or Code _____

Adverse Drug Reactions:					
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
Medication Management	Antiplatelet Therapy	<input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)
	LDL-C Lowering Therapy	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)
	Beta-Blocker Therapy	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)
	ACE Inhibitor Therapy	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)	<input type="checkbox"/> Not indicated <input type="checkbox"/> Prescribed <input type="checkbox"/> Not prescribed (medical reasons*) <input type="checkbox"/> Not prescribed (patient reasons*)
		<input type="checkbox"/> Patient receiving angiotensin receptor blocker	<input type="checkbox"/> Patient receiving angiotensin receptor blocker	<input type="checkbox"/> Patient receiving angiotensin receptor blocker	<input type="checkbox"/> Patient receiving angiotensin receptor blocker
*Specify medical (eg, allergy, contraindication) or patient (eg, economic, social, religious) reasons for not prescribing therapy:					
Other Medications					

This flowsheet is intended for prospective data collection only.

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