

# Health Benchmarks<sup>®</sup> Program

## Clinical Quality Indicator Specification 2011

<b>Measure Title</b>	BETA-BLOCKER PERSISTENCE FOLLOWING A HEART ATTACK		
<b>Disease State</b>	Acute Myocardial Infarction	<b>Indicator Classification<sup>1</sup></b>	Disease Management
<b>Strength of Recommendation<sup>2</sup></b>	A ( <i>treatment for MI</i> )		
<b>Organizations Providing Recommendation</b>	American College of Cardiology American Heart Association		
<b>Clinical Intent</b>	To ensure that members who have been discharged alive from an acute inpatient setting with an acute myocardial infarction (AMI) receive an adequate supply of beta-blockers for at least 75% coverage during the 6 month period following the date of discharge.		
<b>Background</b>	<p><b>Disease Burden</b></p> <ul style="list-style-type: none"> <li>• In 2008, an estimated 770,000 Americans will have a new coronary attack and about 430,000 will have a recurrent attack. It is estimated that an additional 175,000 silent first myocardial infarctions occur each year.[1]</li> <li>• Within 6 years of a first MI, 18% of men and 35% of women will experience another MI and 7% of men and 6% of women will experience sudden death.[2] About 40% of people who experience a heart attack in a given year die from that MI.[3]</li> <li>• The estimated total cost associated with CHD for 2008 is \$156.4 billion.[1]</li> </ul> <p><b>Reason for Indicated Intervention or Treatment</b></p> <ul style="list-style-type: none"> <li>• Beta-blockers are an effective secondary prevention measure in decreasing mortality, recurrent MI, and sudden death after an acute MI.[4-6]</li> <li>• Despite the proven long-term benefits of beta-blockers, they are still greatly underutilized. One study of post-AMI patients showed a decline in beta-blocker use with discontinuation rates as high as 28% within the first year and 47% by the second year.[7] Another study found a similar rate of discontinuation with 55% of post-AMI patients discontinuing beta-blocker medication after a one year follow-up.[8]</li> <li>• Furthermore, patients with AMI who are discharged without an initial prescription of beta-blockers are much less likely to initiate therapy in the long-term.[9]</li> </ul> <p><b>Evidence Supporting Intervention or Treatment</b></p> <ul style="list-style-type: none"> <li>• Multiple studies and clinical trials have shown that beta-blockers significantly reduce total all-cause mortality, nonfatal myocardial</li> </ul>		

infarction, and sudden death by approximately 23-44% in high-risk patients after an acute MI.[4, 6, 10-13]

- A clinical trial of 1,959 patients given beta-blockers after acute myocardial infarction showed a reduced risk in mortality after 30 days compared to those on placebo (OR = 0.58; 95% CI: 0.33-1.02).[11]
- Increased use of beta-blockers after an acute MI leads to marked improvements in patient health and offers the additional benefit of cost savings. One study, which used a Markov model of survivors of a MI aged 35 to 84 years, found that use of beta-blocker therapy in all patients with a first MI who did not have an absolute contraindication would, at 20 years post MI, lead to 72,000 fewer deaths from coronary disease, 62,000 fewer myocardial infarctions, 447,000 life-years gained, and \$18 million saved.[14]
- There is incomplete but growing support for indefinite use of beta-blockers after MI, even for low-risk patients. A meta-analysis of 54,234 patients from 82 randomized trials found that short-term beta-blockade immediately after an acute MI was unlikely to be of major benefit unless treatment was continued for the long-term.[15] A meta-analysis involving 54,234 patients and large clinical trials with high-risk patients showed continuous benefit of long-term beta-blocker therapy.[16]
- In a review from the Beta-blocker in Heart Attack Trial (BHAT), survivors at 12 months who were at high-risk and were treated with beta blockers had a 43% reduction in the subsequent risk for death.[17]
- A longitudinal observational study of 31,455 elderly patients on long-term beta-blocker therapy after a myocardial infarction found that those who had low adherence had higher mortality rates than those who had high adherence to the intervention.[18]

## Clinical Recommendations

- The 2009 American Heart Association and American College of Cardiology (AHA/ACC) focused update on the management of ST-elevation myocardial infarctions gave a Class I recommendation for the use of beta-blockers in all patients who have had an MI, except those who are at low risk (normal or near-normal ventricular function, successful reperfusion, absence of significant ventricular arrhythmias) and those with contraindications. Therapy should be started within a few days of the event if it was not acutely initiated, and should be continued indefinitely (Level of Evidence: A).[19]
- The 2007 AHA/ACC task force on the management of patients with unstable angina/non ST-elevation myocardial infarction recommends initiation of beta-blocker therapy acutely, or at least within a few days of the event, and continued indefinitely.[20]
- For patients at low risk and without contraindications, the 2007 AHA/ACC guidelines state that it is reasonable to prescribe beta-blockers (Class IIa recommendation) (Level of Evidence: B).[20]

## Source

Healthcare Effectiveness Data and Information Set (HEDIS®) 2011 Technical Specification for Physician Measurement

## Denominator

<b>Denominator Definition</b>	Continuously enrolled members ages 18 years or older who were discharged alive from an acute inpatient setting with an acute myocardial infarction (AMI) in the 1 year period starting 6 months prior to the start of the measurement year.
<b>Denominator Index Date</b>	The discharge date (i.e., THRU DATE) of the first instance of members who were discharged from an acute inpatient setting with an AMI in the 1 year period starting 6 months prior to the start of the measurement year.
<b>Denominator Encounters/ Claims Criteria</b>	CPT-4 code(s): 99221-99223, 99231-99233, 99238-99239, 99251-99255, 99261*-99263*, 99291-99300, 99356-99357, 99431*-99440*, 99460-99465, 99468-99476, 99477-99480  ICD-9 diagnosis code(s): 410.x1  UB revenue code(s): 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987  *Code range was retired but is still appropriate for retrospective analysis.

## Denominator Exclusion

<b>Denominator Exclusion Definition</b>	Members whose discharge status is 'expired' or who are identified as having contraindications to the use of beta-blockers at any time in history through the end of the measurement year.
<b>Denominator Exclusion Claims Criteria</b>	ICD-9 diagnosis code(s): 426.0, 426.12, 426.13, 426.2x-426.4x, 426.51-426.54, 426.7x, 427.81, 458.xx, 491.2x, 493.xx, 496, 506.4  Drug List: budesonide-formoterol, fluticasone-salmeterol, beclomethasone, budesonide, flunisolide, fluticasone, mometasone, triamcinolone, fluticasone CFC free

## Numerator

<b>Numerator Definition</b>	Members in the denominator who had sufficient days supply of beta-blockers for at least 75% coverage for the 0-180 day period following the index date.  <i>Note: To account for members who are on beta-blockers prior to admission, factor those prescriptions into adherence rates if the actual treatment days fall within the 180 days following discharge. For example, if a prescription for a beta-blocker with days supply = 30 was filled 10 days before discharge, the days supply that applies towards the numerator is 30 - 10 = 20 days.</i>
<b>Numerator Claims Criteria</b>	Drug List: acebutolol, atenolol, atenolol-chlorthalidone, bendroflumethiazide-nadolol, betaxolol, bisoprolol, bisoprolol-hydrochlorothiazide, carteolol, carvedilol, hydrochlorothiazide-metoprolol, hydrochlorothiazide-propranolol, hydrochlorothiazide-timolol, labetalol, metoprolol, nadolol, penbutolol, pindolol, propranolol, sotalol, timolol

## Physician Attribution

**Physician Attribution Description** Score all physicians who saw the member 0-180 days after the index date (inclusive of the index date).

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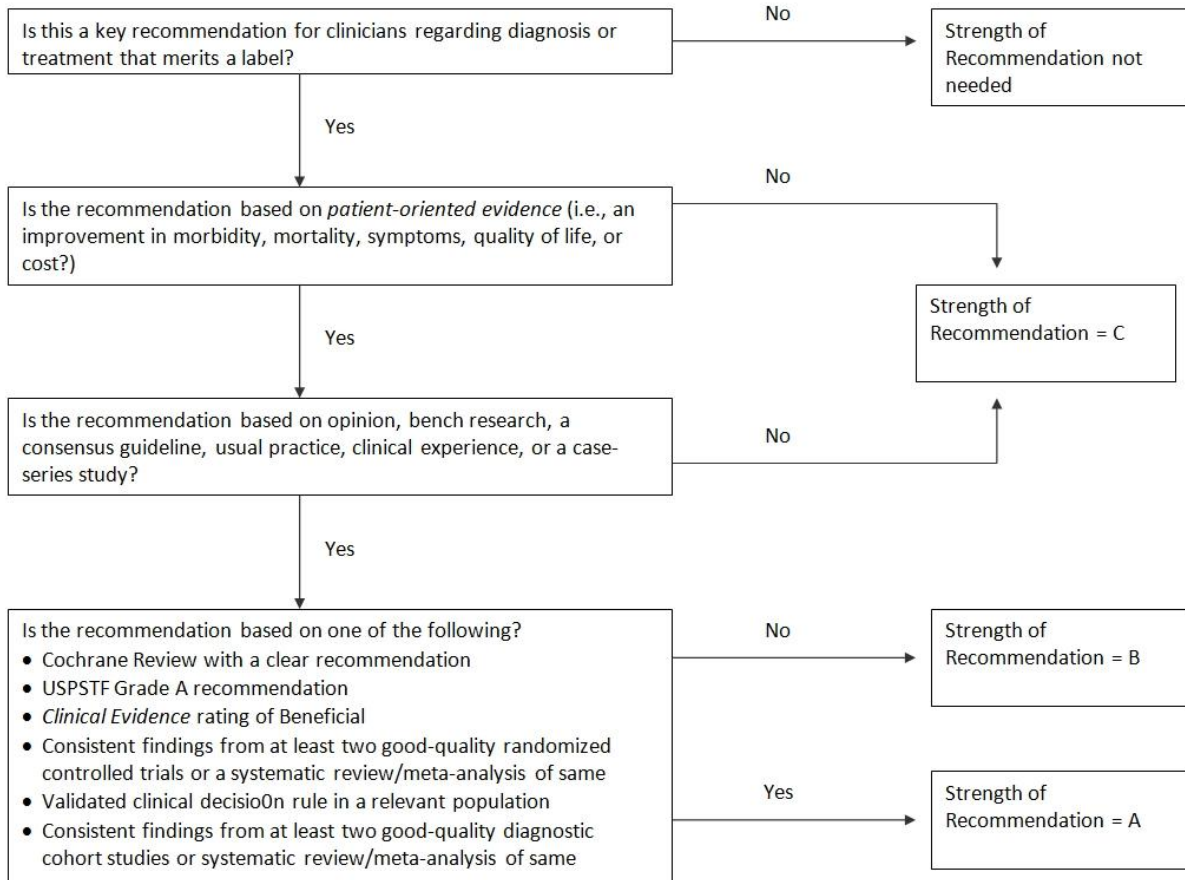
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<sup>1</sup> **Indicator Classification** (Adapted from HEDIS® technical specifications)

Diagnosis	Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).
<b>Effectiveness of Care</b>	
Prevention	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).
Screening	Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).
Disease Management	Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
Medication Monitoring	Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).
Medication Adherence	Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).
Utilization	Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).

## <sup>2</sup> Strength of Recommendation

### Strength of Recommendation Based on a Body of Evidence



**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)