



**Measure Title** BETA BLOCKER PERSISTANCE FOLLOWING A HEART ATTACK

**Disease State** Acute Myocardial Infarction      **Indicator Category<sup>1</sup>** Disease Management

**Strength of Recommendation<sup>2</sup>**  
**Physician Specialties** Cardiovascular Disease, Family Practice, Gerontology, Internal Medicine

**Clinical Rationale**      **Disease Burden**

- It is estimated that over 7 million American adults have suffered from a myocardial infarction in their lifetime.[1]
- Each year, over 1 million Americans will suffer a myocardial infarction, with over 500,000 new attacks, 300,000 recurrent attacks, and 175,000 silent first heart attacks.[1]
- 25 percent of men and 38 percent of women will die within one year after having an initial recognized MI and almost half of men and women under age 65 who have a heart attack die within eight years.[1]

**Reason for Indicated Intervention or Treatment**

- Beta-blockers are an effective secondary prevention measure in decreasing mortality, recurrent MI, and sudden death after an acute MI.[2-9]
- Despite the proven long-term benefits of beta-blockers, they are still greatly underutilized, with studies showing only 21-58% of patients being placed on them after a myocardial infarction.[10-19]

**Evidence supporting Intervention or Treatment**

- Multiple randomized controlled trials have shown that beta-blockers significantly reduce total mortality, nonfatal myocardial infarction, and sudden death by approximately 20-30% in high-risk patients after an acute MI.[2-6, 8]
- A meta-analysis of 31 trials including almost 25,000 patients showed that long-term use of beta-blockers reduced the odds of death after an MI by 23 percent.[7]
- There is incomplete support for the continuous use of Beta Blockers after a MI.
  - A meta analysis involving 54,234 patients and other large clinical trials with high-risk patients showed continuous benefit of long term Beta Blocker therapy. [7][4, 5, 9, 20]
  - However, there has controversy as to the efficacy of long term Beta Blocker therapy in low risk patients after one year. One clinical trial demonstrated no significant benefit to low to moderate risk patients after one year, although there a significant reduction in mortality rates to high risk patients after one year. [20]

**Clinical Recommendations**

- The 2004 The American Heart Association and the American College of Cardiology (AHA/ACC) task force on the management of ST-elevation myocardial infarctions gave a Class I recommendation for the use of beta blockers in all patients without 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).[21]
- For patients at low risk and without contraindications, the 2004 AHA/ACC guidelines state that it is reasonable to prescribe beta-blockers (Class IIa recommendation) (Level of Evidence: A).[21]
- A 2000 AHA/ACC task force on the management of non-ST elevation acute coronary syndromes gave a Class I recommendation for the use of beta blockers in patients without contraindications who have unstable angina or a non-ST elevation myocardial infarction (Level of Evidence: B).[22, 23]

<b>Source</b>	The Health Plan Employer Data and Information Set (HEDIS®) 2006 Technical Specification.
<b>Denominator</b>	Continuously enrolled members ages 35 years or older who were discharged alive from an acute inpatient setting with an AMI between 6 months prior to the start of the measurement year through 6 months after the start of the measurement year.
<b>Denominator Exclusion</b>	Members who do not have pharmacy benefits or whose discharge status is 'expired' or who are identified as having contraindications to the use of beta blockers at any time in the claims history.  Contraindications to beta blocker therapy include a history of asthma, heart block greater than first degree, symptomatic sinus bradycardia, symptomatic hypotension, and COPD (HEDIS, 2006).
<b>Numerator</b>	All members in the denominator whose days supply is greater or equal to 135 days during the 180 days following discharge (75%).  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.  Beta-Blocker Medications: <ul style="list-style-type: none"> <li>• Acebutolol HCL</li> <li>• Atenolol</li> <li>• Betaxolol HCL</li> <li>• Bisoprolol fumarate</li> <li>• Carteolol HCL</li> <li>• Carvedilol</li> <li>• Labetalol HCL</li> <li>• Metoprolol succinate</li> <li>• Metoprolol tartrate</li> <li>• Nadolol</li> <li>• Penbutolol sulfate</li> <li>• Pindolol</li> <li>• Propranolol HCL</li> <li>• Sotalol HCL</li> <li>• Timolol maleate</li> </ul> <i>Data Sources: Rx,betap_num_medlist_2006.xls</i>
<b>Interpretation of</b>	High score implies better performance

**Score**

**Physician Attribution** Score all physicians (in the selected specialties) who saw the member after the index date of discharge.

**External Files Required** Filename: *betap\_num\_medlist\_2006.xls*  
Source: NCQA

**References**

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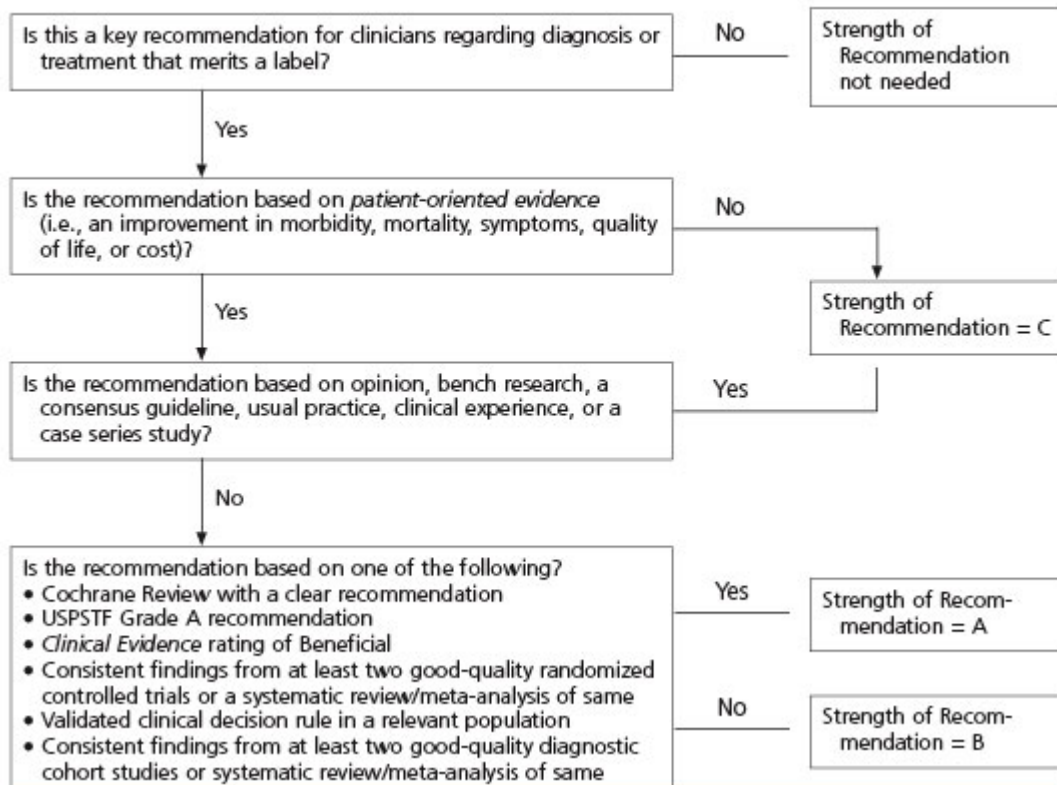
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<sup>1</sup> **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<b>Diagnosis</b>	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>	
<b>Prevention</b>	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
<b>Screening</b>	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).
<b>Disease Management</b>	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).
<b>Medication Monitoring</b>	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)
<b>Medication Adherence</b>	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).
<b>Utilization</b>	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)