**Clinical Quality Indicator Specification 2007**

**Client**
HMSA: PQSR 2007

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

**Disease State**
Acute Myocardial Infarction

**Indicator Classification**
Disease Management

**Strength of Recommendation**
A

**Clinical Intent**
To ensure that eligible members that experienced an acute myocardial infarction receive beta blocker medications after discharge within a clinically appropriate timeframe.

**Physician Specialties**
Refer to PQSR 2007 Specialty Matrix

**Clinical Rationale**

**Disease Burden**
- Each year, more than a million persons in the United States have a heart attack and about half (515,000) of them die. [1]
- Every year, 88,000 women between the ages of 45-64 suffer from a heart attack and 38% of women will die within 1 year after having an initial recognized heart attack. [2]
- Within 6 years of a myocardial infarction, 18% of men and 35% of women will have a recurrent myocardial infarction (MI), and 7% of men and 6% of women will experience sudden death. [3]
- There is an incidence of 1,200,000 new and recurrent heart attacks per year. [4] In addition, about 40 percent of people who experience a heart attack in a given year die from it. [5]

**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.[6-13]
- 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.[14-20]

**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. [6-10, 12]
- 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.[11]
- Research is inconclusive as to whether early beta blocker therapy is more effective than delayed beta blocker therapy after AMI. In the TIMI-IIIB trial, a randomly controlled trial which involved 1434 patients, early therapy resulted in a significant reduction in chest pain, a lower rate of reinfarction (2.7 versus 5.1 percent with later therapy), a significantly lower rate of the combined end point of recurrent MI or death within 21 days (5.0 versus 12.1 percent), and a significantly lower total mortality rate at six weeks in the low risk group (0 versus 2.8 percent), although no mortality benefit was seen in the "not low risk" group. (Immediate versus...

- There is some support for the continuous use of Beta Blockers after a MI. A meta analysis involving 54,234 patients and multiple large clinical trials with high-risk patients showed continuous benefit of long term Beta Blocker therapy.[8, 9, 11] [13, 21]
- 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.[21]

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).[22]
- 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).[22]
- 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).[23, 24]

Source
Adapted from NCQA, HEDIS Technical Specification:

Denominator
Continuously enrolled members ages 35 years or older who were discharged from an acute inpatient setting with an acute myocardial infarction (AMI) during the first 335 days of the measurement year.

Relevant Billing Codes:
- ICD-9-CM code: 410.x1
- CPT-4 codes: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291
- UB-92 Rev codes: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987, 10x, 110-114, 119, 120-124, 129, 130-134, 139, 140-144, 149, 150-154, 159, 16x, 20x-22x, 72x, 80x, 987

Denominator Exclusion
Members 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.
Relevant Billing Codes:

ICD-9-CM Dx codes: 426.0, 426.12, 426.13, 426.2x, 426.3x, 426.4x, 426.51, 426.52, 426.53, 426.54, 426.7x, 427.81, 458.xx, 491.2x, 493.xx, 496.xx, 506.4x

Numerator

Members in the denominator who received a prescription for beta-blockers within 0-30 days after discharge.

Interpretation of Score

High score implies better performance

Physician Attribution

If member did not receive beta blocker medication, score all physicians (in the selected specialties) who saw the 0-30 days after discharge. Or if member did receive a prescription, score the prescribing physician(s).

References


### Indicator Classification

(Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>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)</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>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)</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>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).</td>
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</table>
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)