

****NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE****

Measure Information Form

Measure Set: Acute Myocardial Infarction (AMI)

Set Measure ID#: AMI-6

Performance Measure Name: Beta Blocker at Arrival

Description: Acute myocardial infarction (AMI) patients without beta blocker contraindications who received a beta blocker within 24 hours after hospital arrival

Rationale: The early use of beta blockers in patients with acute myocardial infarction reduces mortality and morbidity (ISIS-1, 1986; Goldstein, 1996; and MIAMI, 1985) and has demonstrated effectiveness in a wide range of AMI patients (Krumholz, 1998). National guidelines strongly recommend early beta blockers for patients hospitalized with AMI (Braunwald, 2002 and Antman, 2004). Despite these recommendations, beta blockers remain under-utilized in eligible older patients hospitalized with AMI (Jencks, 2000).

Type of Measure: Process

Improvement Noted As: An increase in the rate

Numerator Statement: AMI patients who received a beta blocker within 24 hours after hospital arrival

Included Populations: Not Applicable

Excluded Populations: None

Data Elements:

Beta Blocker Received Within 24 Hours After Hospital Arrival

Denominator Statement: AMI patients without beta blocker contraindications

Included Populations:

Discharges with an *ICD-9-CM Principal Diagnosis Code* for AMI as defined in Appendix A, Table 1.1

Excluded Populations:

- Patients less than 18 years of age
- Patients transferred to another acute care hospital or federal hospital on day of or day after arrival
- Patients received in transfer from another acute care hospital, including another emergency department
- Patients discharged on day of arrival
- Patients who expired on day of or day after arrival
- Patients who left against medical advice on day of or day after arrival
- Patients with comfort measures only documented by a physician, nurse practitioner, or physician assistant
- Patients with one or more of the following beta blocker contraindications/reasons for not prescribing beta blocker documented in the medical record:
 - Beta blocker allergy
 - Bradycardia (heart rate less than 60 bpm) on arrival or within 24 hours after arrival while not on a beta blocker
 - Heart failure on arrival or within 24 hours after arrival
 - Second or third degree heart block on ECG on arrival or within 24 hours after arrival and does not have a pacemaker
 - Shock on arrival or within 24 hours after arrival
 - Other reasons documented by a physician, nurse practitioner, or physician assistant for not giving a beta blocker within 24 hours after hospital arrival

Data Elements:

- *Admission Date*
- *Admission Source*
- *Arrival Date*
- *Birthdate*
- *Comfort Measures Only*
- *Contraindication to Beta Blocker on Arrival*
- *Discharge Date*
- *Discharge Status*
- *ICD-9-CM Principal Diagnosis Code*
- *Transfer From Another ED*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical records.

Data Accuracy: Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

Measure Analysis Suggestions: None

Sampling: Yes; for additional information see the Sampling Section.

Data Reported As: Aggregate rate generated from count data reported as a proportion

Selected References:

- Antman EM, Anbe DT, Armstrong PW, Bates ER, Green LA, Hand M, Hochman JS, Krumholz HM, Kushner FG, Lamas GA, Mullany CJ, Ornato JP, Pearle DL, Sloan MA, Smith SC Jr. ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee to Revise the 1999 Guidelines for the Management of Patients With Acute Myocardial Infarction). 2004. Available at www.acc.org/clinical/guidelines/stemi/index.pdf
- Braunwald E, Antman EM, Beasley JW, Califf RM, Cheitlin MD, Hochman JS, Jones RH, Kereiakes D, Kupersmith J, Levin TN, Pepline CJ, Schaeffer JW, Smith EE III, Steward DE, Theroux P. ACC/AHA 2002 guideline update for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on the Management of Patients with Unstable Angina). 2002. Available at www.acc.org/clinical/guidelines/unstable/unstable.pdf
- First International Study of Infarct Survival Collaborative Group. Randomized trial of intravenous atenolol among 16027 cases of suspected acute myocardial infarction: ISIS-1. *Lancet*. 1986;2:57-66.
- Goldstein S. β -blockers in hypertensive and coronary heart disease. *Arch Intern Med*. 1996;156:1267-76.
- Krumholz HM, Anderson JL, Brooks NH, Fesmire FM, Lambrew CT, Landrum MB, Weaver WD, Whyte J. ACC/AHA Clinical Performance Measures for Adults With ST-Elevation and Non-ST-Elevation Myocardial Infarction: a report of the ACC/AHA Task Force on Performance Measures (ST-Elevation and Non-ST-Elevation Myocardial Infarction Performance Measures Writing Committee). *J Am Coll Cardiol* 2006;47:236–65. Available at <http://www.acc.org> and <http://www.americanheart.org>.
- Jencks SJ, Cuerdon T, Burwen DR, Fleming B, Houck PM, Kussmaul AE, Nilasena DS, Ordin DL, Arday DR. Quality of medical care delivered to Medicare beneficiaries: a profile at state and national levels. *JAMA*. 2000;284:1670-1676.
- Krumholz HM, Radford MJ, Wang Y, Chen J, Heiat A, Marciniak TA. National use and effectiveness of β -blockers for the treatment of elderly patients after acute myocardial infarction. National Cooperative Cardiovascular Project. *JAMA* 1998;280:623-629.
- Metoprolol in acute myocardial infarction. Patient population. The MIAMI Trial Research Group. *Am J Cardiol* 1985; 56(14):10G-14G.

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