

Measure specifications may be modified based on recommendations issued by the National Quality Forum

Quality of Care Measure

AMI-6: 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.

Type of Measure: CMS Core
JCAHO Core

Rationale: The early use of beta blockers in patients with acute myocardial infarction reduces mortality and morbidity. (ISIS-1, 1986, and Goldstein, 1996). National guidelines strongly recommend early beta blockers for patients hospitalized with AMI (Braunwald, 2000 and Ryan, 1999). Despite these recommendations, beta blockers remain underutilized in older patients hospitalized with AMI (Jencks, 2000).

Denominator Statement: AMI patients without beta blocker contraindications.

Included Populations: All discharges regardless of payer with a principal diagnosis of AMI (ICD-9-CM codes 410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91)

Excluded Populations:

- Patients less than 18 years of age
- Patients transferred to another acute care hospital on day of arrival
- Patients received in transfer from another hospital, including another emergency department
- Patients discharged on day of arrival
- Patients who expired on day of arrival
- Patients who left against medical advice on day of arrival
- 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;

- Systolic blood pressure less than 90 mm Hg on arrival or within 24 hours after arrival; or,
- Other reasons documented by a physician, nurse practitioner, or physician assistant for not giving a beta blocker within 24 hours after hospital arrival

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

Selected References:

- Braunwald E, Antman EM, Beasley JW, Califf RM, Cheitlin MD, Hochman JS, Jones RH, Kereiakes D, Kupersmith J, Levin TN, Pepine CJ, Schaeffer JW, Smith EE III, Steward DE, Theroux P. ACC/AHA guidelines 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). *J Am Coll Cardiol* 2000;36:970-1062. Available at <http://www.acc.org> and <http://www.americanheart.org>.
- First International Study of Infarct Survival Collaborative Group. Randomised 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.
- 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.
- Ryan TJ, Antman EM, Brooks NH, Califf RM, Hillis LD, Hiratzka LF, Rapaport E, Riegel B, Russell RO, Smith EE III, Weaver WD. 1999 update: ACC/AHA guidelines for the management of patients with acute myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Management of Acute Myocardial Infarction). *J Am Coll Cardiol* 1999;34:890-911. Available at <http://www.acc.org> and <http://www.americanheart.org>.
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