NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each subcriterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 0071 **NQF Project:** Cardiovascular Endorsement Maintenance 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Acute Myocardial Infarction (AMI): Persistence of Beta-Blocker Treatment After a Heart Attack
De.2 **Brief description of measure***:* The percentage of patients age 18 years and older during the measurement year who were hospitalized and discharged alive July 1 of the year prior to the measurement year through June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.
1.1-2 **Type of Measure:** Process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** Care coordination, Population health De.5 **IOM Quality Domain**: Effectiveness De.6 **Consumer Care Need:** Getting better, Living with illness

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** Proprietary measure A.3 **Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission A.4 **Measure Steward Agreement attached:**	**A** **Y**☐ **N**☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal quality improvement	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	**Eval Rating**
(for NQF staff use) **Specific NPP goal**:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** Leading cause of morbidity/mortality 1a.2 1a.3 **Summary of Evidence of High Impact:** Health Importance: This measure addresses the appropriate clinical management of a person who has experienced an AMI. The major outcomes achieved by the therapies targeted by this measure are reduced risk of mortality (in-hospital and post-hospital), reduced risk and severity of reinfarction (i.e., another heart attack) and preservation of left ventricular function. These outcomes are realized through a combination of strategies, including: • restoration of blood flow (i.e., reperfusion), which is essential for reducing the severity of damage to the heart muscle and is achieved through thrombolytic therapy (to prevent and dissolve blood clots) or percutaneous transluminal coronary angioplasty (PTCA) • the use of beta-blockers (to slow the heart rate, lower blood pressure and prevent irregular heartbeats) and ACE inhibitors (to lower blood pressure and prevent recurrences), which contribute to limiting the extent of damage to the heart muscle (reducing the probability of "pump failure") and preserving ventricular function. How beta-blockers affect subsequent outcomes for patients with an AMI is not well understood, although the observed effects are significant. Beta-blockers partially block the nerve impulses that stimulate the	**1a** C☐ P☐ M☐ N☐

Comment [KP1]: 1a. The measure focus addresses:
•a specific national health goal/priority identified by NQF's National Priorities Partners; OR
•a demonstrated high impact aspect of healthcare (e.g., affects large numbers, leading cause of morbidity/mortality, high resource use (current and/or future), severity of illness, and patient/societal consequences of poor quality).

heart muscle; they may reduce how hard the heart has to work to pump blood and also lower blood pressure. Beta-blockers also contribute to reduction in arrhythmias (irregular or loss of rhythm in the heart beat), and reduce ischemia (inadequate flow of blood to the heart).
Both short- and long-term use of beta-blockers reduce mortality after an AMI. A meta-analysis of 31 long-term trials (6–48 month use of beta-blockers after AMI) indicates a 23 percent reduction in the odds of death. An analysis of 51 short-term trials (up to 6 weeks after the onset of pain) indicates a 4 percent reduction in the odds of death (Freemantle, 1999). There is also indication that beta-blocker therapy can lead to a 22 percent relative risk reduction for hospital readmission during the first year (Bradford et al, 1999).
Even given the significant benefits of continued beta-blocker use, beta-blocker therapy continues to be underused, especially in high risk groups (ACC/AHA, 2004).

Outpatient utilization of beta-blocker therapy was assessed during the first year following hospital discharge for AMI. The study examined the proportion of patients who filled a prescription for a beta-blocker within 30 days after hospital discharge and the proportion who had a current prescription at 180 and 365 days post discharge. Of patients discharged on beta-blockers, 85% of survivors had filled a prescription by 30 days; 63% at 180 days, and 61% at 365 days were current users (Butler J, et al., 2002). There is significant long-term decline in use of prescribed therapy after hospital discharge for AMI. Quality improvement efforts in this area could have an impact due to the demonstrated survival benefit of continued beta-blocker therapy after heart attack.

In a recent national study of patients with a history of AMI (who had commercial health insurance and prescription drug benefits), only 45% of patients were adherent to beta-blockers in the first year after hospital discharge, with the biggest drop in adherence between 30 and 90 days (Kramer JM, et al., 2006). Sustained therapy with beta-blocker medication provides better survival outcomes.

Despite the benefit associated with the use of beta-blockers, studies looking at prescribing patterns have shown that fewer patients continue treatment past the initial prescription (Krumholz, 1998; Beta-Blocker Pooling Project Research Group, 1988; Phillips, 1996). In addition, long-term use of beta-blocker therapy continues to be underused, especially in high risk groups (ACC/AHA, 2004).

Financial Importance:
The cost of cardiovascular diseases and stroke in the United States for 2006 is estimated at $403.1 billion. This figure includes health expenditures (direct costs such as the cost of physicians and healthcare practitioners, hospital and nursing home services, medications, home health care and other medical durables) and lost productivity resulting from morbidity and mortality (indirect costs). By comparison, in 2004 the estimated cost of all cancers was $190 billion ($69 billion in direct costs, $17 billion in morbidity indirect costs and $104 billion in mortality indirect costs). (AHA, 2006)

AMI represents 18 percent of hospital discharges and 28 percent of deaths due to heart disease, so one might estimate that the costs associated with AMI might be in the range from about $39–$60 billion (NHLBI, 2000).

Increasing beta-blocker use to ideal levels was shown to be cost-effective compared to current utilization at a cost of $5000 per quality-adjusted life years (QALY) gained (Philips et al, 2000). Compared to current utilization, increasing adherence to current guidelines and extending eligibility to new patients with AMIs in 2000, over the next 20 years beta-blockers would save as many as:
- 4,000 lives
- 3,000 future AMIs

34,000 quality-adjusted years of life (Philips et al, 2000)

1a.4 Citations for Evidence of High Impact: Freemantle N, Cleland J, Young P, Mason J, Harrison J. ? Blockade after myocardial infarction: systematic review and meta regression analysis. BMJ 1999;318:1730-1737.

Bradford WD, Chen J, Krumholz HM. Under-utilisation of beta-blockers after acute myocardial infarction. Pharmacoeconomic implications. Pharmacoeconomics 1999 Mar;15(3):257-68.

American College of Cardiology/ American Heart Association Updated guidelines 2004: Antman et al., Management of Patients With STEMI: Executive Summary

Kramer JM, et al., National Evaluation of Adherence to Beta-Blocker Therapy for 1 Year After Acute Myocardial Infarction in Patients With Commercial Health Insurance. American Heart Journal 2006;152:454.e1-454.8e.

Krumholz HM, Radford MJ, Wang Y, Chen J, Heiat A, Marciniak TA- National use and effectiveness of beta-blockers for the treatment of elderly patients after acute myocardial infarction. National Cooperative Cardiovascular Project. JAMA, 1998; 280:623-629.

American Heart Association. 2006 Heart and Stroke Statistical Update. http://circ.ahajournals.org/cgi/content/short/113/6/e85

National Institutes of Health, National Heart, Lung, and Blood Institute. Morbidity and Mortality: 2000 Chart Book on Cardiovascular, Lung, and Blood Diseases.

Philips KA, Shlipak M, Coxson P, Weinstein M, Goldman L. The Potential Health and Economic Benefits of Increased Beta-Blocker Utilization Following Myocardial Infarction. Abstract presented by Kathryn A. Philips at the Academy for Health Services Research and Health Policy (AHSR) 2000, Annual Meeting.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Persistent Beta-Blocker use in treatment after a heart attack reduces the risk of mortality, reduces the risk and severity of reinfarction, and improves the preservation of the left ventricular function.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:

Performance Rates Persistence of Beta Blocker Treatment

			Percentiles				
	N	Mean	10th	25th	50th	75th	90th
Commercial 2005	173	67.4	53.6	61.3	69.0	75.5	79.0
Commercial 2006	178	70.3	58.0	65.0	71.0	76.6	81.0
Medicare 2005	83	61.3	41.4	52.3	64.1	73.8	80.0
Medicare 2006	105	65.4	45.5	58.1	67.7	75.4	83.0
Medicaid 2005	13	70.5	55.1	62.3	77.8	81.7	84.8
Medicaid 2006	25	69.8	51.4	62.0	72.0	77.5	80.5

1b.3 Citations for data on performance gap:
NA

1b.4 Summary of Data on disparities by population group:
See 1b.2 for data stratified by product line (Commercial, Medicare, Medicaid).

1b.5 Citations for data on Disparities:
NA

1b C☐ P☐ M☐ N☐

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Both short- and long-term use of beta-blockers reduce mortality after an AMI. A meta-analysis of 31 long-term trials (6–48 month use of beta-blockers after AMI) indicates a 23 percent reduction in the odds of death. An analysis of 51 short-term trials (up to 6 weeks after the onset of pain) indicates a 4 percent reduction in the odds of death (Freemantle, 1999). There is also indication that beta-blocker therapy can lead to a 22 percent relative risk reduction for hospital readmission during the first year (Bradford et al, 1999).

1c C☐ P☐ M☐ N☐

Comment [KP2]: 1b. Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating considerable variation, or overall poor performance, in the quality of care across providers and/or population groups (disparities in care).

Comment [k3]: 1 Examples of data on opportunity for improvement include, but are not limited to: prior studies, epidemiologic data, measure data from pilot testing or implementation. If data are not available, the measure focus is systematically assessed (e.g., expert panel rating) and judged to be a quality problem.

Comment [k4]: 1c. The measure focus is:
•an outcome (e.g., morbidity, mortality, function, health-related quality of life) that is relevant to, or associated with, a national health goal/priority, the condition, population, and/or care being addressed;
OR
•if an intermediate outcome, process, structure, etc., there is **evidence** that supports the specific measure focus as follows:
oIntermediate outcome – evidence that the measured intermediate outcome (e.g., blood pressure, Hba1c) leads to improved health/avoidance of harm or cost/benefit.
oProcess – evidence that the measured clinical or administrative process leads to improved health/avoidance of harm and
if the measure focus is on one step in a multi-step care process, it measures the step that has the greatest effect on improving the specified desired outcome(s).
oStructure – evidence that the measured structure supports the consistent delivery of effective processes or access that lead to improved health/avoidance of harm or cost/benefit.
oPatient experience – evidence that an association exists between the measure of patient experience of health care and the outcomes, values and preferences of individuals/ the public.
oAccess – evidence that an association exists between access to a health service and the outcomes of, or experience with, care.
oEfficiency – demonstration of an association between the measured resource use and level of performance with respect to one or more of the other five IOM aims of quality.

Comment [k5]: 4 Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multi-step process, the step with the greatest effect on the desired outcome should be selected as the focus of measurement. For example, although assessment of immunization status and recommending immunization are necessary steps, they are not sufficient to achieve the desired impact on health status – patients must be vaccinated to achieve immunity. This does not preclude consideration of measures of preventive screening interventions where there is a strong link with desired outcomes (e.g., … [1]

1c.2-3. Type of Evidence:

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
Beta-Blockers (2007 Update)
Class I
1. Oral beta-blocker therapy should be initiated in the first 24 hours for patients who do not have any of the following: 1) signs of heart failure, 2) evidence of a low output state, 3) increased risk* for cardiogenic shock, or 4) other relative contraindications to beta blockade (PR interval greater than 0.24 seconds, second- or third-degree heart block, active asthma, or reactive airway disease). (Level of Evidence: B) (Modified recommendation [changed Level of Evidence and text])
2. Patients with early contraindications within the first 24 hours of STEMI should be reevaluated for candidacy for beta-blocker therapy as secondary prevention. (Level of Evidence: C) (2004 recommendation remains current in 2007 update)
3. Patients with moderate or severe left ventricular (LV) failure should receive beta-blocker therapy as secondary prevention with a gradual titration scheme. (Level of Evidence: B) (2004 recommendation remains current in 2007 update)

Class IIa
1. It is reasonable to administer IV beta-blockers at the time of presentation to STEMI patients who are hypertensive and who do not have any of the following: 1) signs of heart failure, 2) evidence of a low output state, 3) increased risk* for cardiogenic shock, or 4) other relative contraindications to beta blockade (PR interval greater than 0.24 seconds, second- or third-degree heart block, active asthma, or reactive airway disease). (Level of Evidence: B) (Modified recommendation [changed text])

Class III
1. IV beta blockers should not be administered to STEMI patients who have any of the following: 1) signs of heart failure, 2) evidence of a low output state, 3) increased risk* for cardiogenic shock, or 4) other relative contraindications to beta blockade (PR interval greater than 0.24 seconds, second- or third-degree heart block, active asthma, or reactive airway disease). (Level of Evidence: A) (New recommendation)
*Risk factors for cardiogenic shock (the greater the number of risk factors present, the higher the risk of developing cardiogenic shock) are age greater than 70 years, systolic blood pressure less than 120 mm Hg, sinus tachycardia greater than 110 bpm, and increased time since onset of symptoms of STEMI.

1c.10 Clinical Practice Guideline Citation: 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 Acute Myocardial Infarction). (2) 2007 focused update of the ACC/AHA 2004 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.

1c.11 National Guideline Clearinghouse or other URL:

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**
Class I, IIa, III (see above)

Comment [k6]: 3 The strength of the body of evidence for the specific measure focus should be systematically assessed and rated (e.g., USPSTF grading system http://www.ahrq.gov/clinic/uspstf07/methods/benefit.htm). If the USPSTF grading system was not used, the grading system is explained including how it relates to the USPSTF grades or why it does not. However, evidence is not limited to quantitative studies and the best type of evidence depends upon the question being studied (e.g., randomized controlled trials appropriate for studying drug efficacy are not well suited for complex system changes). When qualitative studies are used, appropriate qualitative research criteria are used to judge the strength of the evidence.

Comment [k7]: USPSTF grading system **http://www.ahrq.gov/clinic/uspstf/grades.htm**: **A -** The USPSTF recommends the service. There is high certainty that the net benefit is substantial. **B -** The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial. **C -** The USPSTF recommends against routinely providing the service. There may be considerations that support providing the service in an individual patient. There is at least moderate certainty that the net benefit is small. Offer or provide this service only if other considerations support the offering or providing the service in an individual patient. **D -** The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits. **I -** The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

1c.13 Method for rating strength of recommendation (*If different from USPSTF system, also describe rating and how it relates to USPSTF*)**:**

Size of treatment effect:

CLASS I
Benefit >>> Risk
Procedure/Treatment
SHOULD be performed/ administered

CLASS IIa
Benefit >> Risk
Additional studies with focused objectives needed
IT IS REASONABLE to perform procedure/administer treatment

CLASS IIb
Benefit > Risk
Additional studies with broad objectives needed; additional registry data would be helpful

Procedure/Treatment MAY BE CONSIDERED

CLASS III
Risk > Benefit
No additional studies needed
Procedure/Treatment should NOT be performed/administered SINCE IT IS NOT HELPFUL AND MAY BE HARMFUL

Estimate of Certainty (Precision) of Treatment Effect:

LEVEL A
Multiple (3–5) population risk strata evaluated*
General consistency of direction and magnitude of effect
•Recommendation that procedure or treatment is useful/effective
•Sufficient evidence from multiple randomized trials or meta-analyses
•Recommendation in favor of treatment of procedure being useful/effective
•Some conflicting evidence from multiple randomized trials or meta-analyses
•Recommendation´s usefulness/efficacy less well established
•Greater conflicting evidence from multiple randomized trials or meta-analyses
•Recommendation that procedure or treatment is not useful/effective and may be harmful
•Sufficient evidence from multiple randomized trials or meta-analyses
LEVEL B
Limited (2–3) population risk strata evaluated*
•Recommendation that procedure or treatment is useful/effective
•Limited evidence from single randomized trial or nonrandomized studies
•Recommendation in favor of treatment of procedure being useful/effective
•Some conflicting evidence from single randomized trial or nonrandomized studies
•Recommendation´s usefulness/efficacy less well established
•Greater conflicting evidence from single randomized trial or nonrandomized studies
•Recommendation that procedure or treatment is not useful/effective and may be harmful
•Limited evidence from single randomized trial or nonrandomized studies
LEVEL C
Very limited (1–2) population risk strata evaluated*
•Recommendation that procedure or treatment is useful/effective
•Only expert opinion, case studies, or standard-of-care
•Recommendation in favor of treatment of procedure being useful/effective
•Only diverging expert opinion, case studies, or standard-of-care
•Recommendation´s usefulness/efficacy less well established
•Only diverging expert opinion, case studies, or standard-of-care
•Recommendation that procedure or treatment is not useful/effective and may be harmful

•Only expert opinion, case studies, or standard-of-care 1c.14 **Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	**Eval Rating**
2a. MEASURE SPECIFICATIONS	
S.1 **Do you have a web page where current detailed measure specifications can be obtained?** S.2 **If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 **Numerator Statement (***Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** A 180-day course of treatment with beta-blockers post discharge. 2a.2 **Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Six months after discharge from a hospital with AMI (with the discharge anywhere from July 1 of the year prior to the measurement year through June 30 of the measurement year). 2a.3 **Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Identify all patients in the denominator population whose dispensed days supply is >=135 days in the 180 days following discharge. Persistence of treatment for this measure is defined as at least 75 percent of the days supply filled. To determine continuity of treatment during the 180-day period, sum the number of allowed gap days to the number of treatment days for a maximum of 180 days (i.e., 135 treatment days + 45 gap days = 180 days); identify all prescriptions filled within 180 days of the Discharge Date. To account for members who are on beta-blockers prior to admission, the organization should factor those prescriptions into adherence rates if the actual treatment days fall within the 180 days following discharge. Table PBH-B Beta Blocker Medications: Noncardioselective beta-blockers (carteolol, carvedilol, labetalol, nadolol, penbutolol, pindolol, propranolol, timolol, sotalol), cardioselective beta-blockers (acebutolol, atenolol, betaxolol, bisoprolol, metoprolol, nebivolol), Antihypertensive combinations (atenolol-chlorthalidone, bendroflumethiazide-nadolol, bisoprolol-hydrochlorothiazide, hydrochlorothiazide-propranolol, hydrochlorothiazide-metoprolol, hydrochlorothiazide-timolol)	
2a.4 **Denominator Statement (***Brief, text description of the denominator - target population being measured***):** Patients 18 years and older as of December 31 of the measurement year discharged alive from an acute inpatient setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. 2a.5 **Target population gender:** Female, Male 2a.6 **Target population age range:** 18 years and older 2a.7 **Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** July 1 of the year prior to the measurement year through June 30 of the measurement year.	**2a-specs** **C☐** **P☐** **M☐** **N☐**

Comment [KP8]: 2a. The measure is well defined and precisely specified so that it can be implemented consistently within and across organizations and allow for comparability. The required data elements are of high quality as defined by NQF's Health Information Technology Expert Panel (HITEP) .

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Patients 18 years and older as of December 31 of the measurement year discharged alive from an acute inpatient setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. If using health plan data, patient should have continuous medical and pharmacy benefit enrollment on the discharge date through 180 days after discharge, with no more than one gap in enrollment of up to 45 days within 180 days of the event. If the patient is a Medicaid beneficiary, the patient may not have more than 1 month gap in coverage and must be enrolled on the discharge date. If using non-health plan data, the patien must have a pharmacy claim or prescription written July 1 of the year prior to the measurement year through 180 days post-discharge to be included.

If a patient has more than one episode of AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year, only the first discharge should be included.

Transfers to acute facilities: include hospitalizations in which the patient was transferred directly to another acute inpatient facility for any diagnosis. Count the discharge from the subsequent acute inpatient facility, not the inital discharge. The discharge date from the facility to which the patient was transferred must occur on or before June 30 of the measurement year.

Readmissions: If the patient was readmitted to an acute or nonacute care facility for any diagnosis, include the patient in the denominator and use the discharge date from the original hospitalization.

Description	ICD-9-CM Diagnosis
AMI	410.x1

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Exclude patients who are identified as having a contraindication to beta-blocker therapy or previous adverse reaction to beta-blocker therapy. Also exclude from the denominator hospitalizations in which the patient was transferred directly to a nonacute care facility for any diagnosis.

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
Exclude patients who are identified as having a contraindication to beta-blocker therapy or previous adverse reaction to beta-blocker therapy. Look as far back as possible in the patients history through either administrative data or medical record review for evidence of contraindication or a previous adverse reaction to beta-blocker therapy.

Also exclude from the denominator hospitalizations in which the patient was transferred directly to a nonacute care facility for any diagnosis.
Table PBH-C: ICD-9 codes to identify exclusions: history of asthma: 493; hypotension: 458; heart block >1 degree: 426.0, 426.12, 426.13, 426.2-426.4, 426.51-426.54, 426.7; sinus bradycardia: 427.81; COPD: 491.2, 496, 506.4

Table PBH-D Medications to Identify Exclusions (hx of asthma): Bronchodilator combinations (budesonide-formoterol, fluticasone-salmeterol), inhaled corticosteroids (beclomethasone, budesonide, flunisolide, fluticasone, mometasone, triamcinolone, fluticasone CFC free)

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
None

2a.12-13 Risk Adjustment Type: No risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
NA

2a.15-17 Detailed risk model available Web page URL or attachment:

Comment [k9]: 11 Risk factors that influence outcomes should not be specified as exclusions.
12 Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.

2a.18-19 Type of Score: Rate/proportion
2a.20 Interpretation of Score: Better quality = Higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
NA

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
After a measure is created, it will go through first-year analysis. This anaysis (at the health plan level) consists of a review of data completeness, national results, regional results, and eligible population and prevalence. The first-year results are compared by data collection methodology, health plan accreditation status and finally, are compared to the field test results.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
NA

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Paper medical record/flow-sheet, Electronic administrative data/claims, Pharmacy data, Electronic clinical data, Electronic Health/Medical Record

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
NA

2a.26-28 Data source/data collection instrument reference web page URL or attachment:

2a.29-31 Data dictionary/code table web page URL or attachment:

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Individual, Clinicians: Group, Health Plan

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Ambulatory Care: Clinic, All settings

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: PA/NP/Advanced Practice Nurse, Clinicians: Physicians (MD/DO)

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Product Line Reporting Type Beta binomial Reliability

Commercial	HMO + PPO	0.833065189
Commercial	HMO Only	0.961358318
Commercial	PPO Only	0.726874745
Medicare	HMO + PPO	0.832793196
Medicare	HMO Only	0.934067295
Medicare	PPO Only	0.620445218
Medicaid	HMO	0.782609142

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Reliability was estimated by using the beta-binomial model. Beta-binomial is a better fit when estimating the reliability of simple pass/fail rate measures as is the case with most HEDIS measures. The beta-binomial model assumes the plan score is a binomial random variable conditional on the plan´s true value that comes from the beta distribution. The beta distribution is usually defined by two parameters, alpha and beta. Alpha and beta can be thought of as intermediate calculations to get to the needed variance estimates. The beta distribution can be symmetric, skewed or even U-shaped.

2b
C ☐
P ☐
M ☐
N ☐

Comment [KP10]: 2b. Reliability testing demonstrates the measure results are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period.

Comment [k11]: 8 Examples of reliability testing include, but are not limited to: inter-rater/abstractor or intra-rater/abstractor studies; internal consistency for multi-item scales; test-retest for survey items. Reliability testing may address the data items or final measure score.

Equation for calculating the reliability:
Reliability = Variance (plan-to-plan) / [Variance (plan-to-plan) + Variance (plan-specific-error]

Reliability used here is the ratio of signal to noise. The signal in this case is the proportion of the variability in measured performance that can be explained by real differences in performance. A reliability of zero implies that all the variability in a measure is attributable to measurement error. A reliability of one implies that all the variability is attributable to real differences in performance.

2b.3 **Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
NA

2c. Validity testing

2c.1 **Data/sample** *(description of data/sample and size)*: NA

2c.2 **Analytic Method** *(type of validity & rationale, method for testing)*:
NA

2c.3 **Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*:
NA

2c
C☐
P☐
M☐
N☐

2d. Exclusions Justified

2d.1 **Summary of Evidence supporting exclusion(s)**:
NA

2d.2 **Citations for Evidence:**
NA

2d.3 **Data/sample** *(description of data/sample and size)*: NA

2d.4 **Analytic Method** *(type analysis & rationale)*:
NA

2d.5 **Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:
NA

2d
C☐
P☐
M☐
N☐
NA☐

2e. Risk Adjustment for Outcomes/ Resource Use Measures

2e.1 **Data/sample** *(description of data/sample and size)*: NA

2e.2 **Analytic Method** *(type of risk adjustment, analysis, & rationale)*:
NA

2e.3 **Testing Results** *(risk model performance metrics)*:
NA

2e.4 **If outcome or resource use measure is not risk adjusted, provide rationale:** NA

2e
C☐
P☐
M☐
N☐
NA☐

2f. Identification of Meaningful Differences in Performance

2f.1 **Data/sample from Testing or Current Use** *(description of data/sample and size)*: NA

2f.2 **Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*:
NA

2f.3 **Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by*

2f
C☐
P☐
M☐
N☐

Comment [KP12]: 2c. Validity testing demonstrates that the measure reflects the quality of care provided, adequately distinguishing good and poor quality. If face validity is the only validity addressed, it is systematically assessed.

Comment [k13]: 9 Examples of validity testing include, but are not limited to: determining if measure scores adequately distinguish between providers known to have good or poor quality assessed by another valid method; correlation of measure scores with another valid indicator of quality for the specific topic; ability of measure scores to predict scores on some other related valid measure; content validity for multi-item scales/tests. Face validity is a subjective assessment by experts of whether the measure reflects the quality of care (e.g., whether the proportion of patients with BP < 140/90 is a marker of quality). If face validity is the only validity addressed, it is systematically assessed (e.g., ratings by relevant stakeholders) and the measure is judged to represent quality care for the specific topic and that the measure focus is the most important aspect of quality for the specific topic.

Comment [KP14]: 2d. Clinically necessary measure exclusions are identified and must be:
•supported by evidence of sufficient frequency of occurrence so that results are distorted without the exclusion;
AND
... [2]

Comment [k15]: 10 Examples of evidence that an exclusion distorts measure results include, but are not limited to: frequency of occurrence, sensitivity analyses with and without the exclusion, and variability of exclusions across providers.

Comment [KP16]: 2e. For outcome measures and other measures (e.g., resource use) when indicated:
•an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified and is based on patient clinical factors that influence the measured outc
... [3]

Comment [k17]: 13 Risk models should not obscure disparities in care for populations by including factors that are associated with differences/inequalities in care such as race, socioeconomic status, gender (e.g., poorer treatment outcomes of African American men with prostate cancer, inequalities in treatment for CVD risk factors between men and w
... [4]

Comment [KP18]: 2f. Data analysis demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful differences in performance.

Comment [k19]: 14 With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically significant difference of one percentage point in the percentage of patients who received smoking cessatio
... [5]

quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance): NA	
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: NA 2g.2 **Analytic Method** *(type of analysis & rationale)*: NA 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: NA	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: See results under 1b.2, stratified by product line. 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** NCQA has participated with IOM and others in attempting to include information on disparities in measure data collection. However, at the present time, this data, at all levels (claims data, paper chart review, and electronic records), is not coded in a standard manner, and is incompletely captured. There are no consistent standards for what entity (physician, group, plan, employer) should capture and report this data. While "requiring" reporting of the data could push the field forward, it has been our position that doing so would create substantial burden with inability to use the data because of its inconsistency. At the present time, we agree with the IOM report that disparities are best considered by the use of zip code analysis which has limited applicability in most reporting situations. At the health plan level, for HEDIS health plan data collection, NCQA does have extensive data related to our use of stratification by insurance status (Medicare, Medicaid and private-commercial) and would strongly recommend this process where the data base supporting the measurement includes this information. However, we believe that the measure specifications should NOT require this since the measure is still useful where the data needed to determine disparities cannot be ascertained from the data available.	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	**Eval Rating**
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** In use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): Healthcare Effectiveness Data and Information Set (HEDIS) - Health Plans and Physician Measurement 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years*): Quality Compass: http://www.ncqa.org/tabid/177/Default.aspx America´s Best Health Plans: http://www.ncqa.org/tabid/506/Default.aspx	**3a** C☐ P☐ M☐ N☐

Comment [KP20]: 2g. If multiple data sources/methods are allowed, there is demonstration they produce comparable results.

Comment [KP21]: 2h. If disparities in care have been identified, measure specifications, scoring, and analysis allow for identification of disparities through stratification of results (e.g., by race, ethnicity, socioeconomic status, gender);OR rationale/data justifies why stratification is not necessary or not feasible.

Comment [KP22]: 3a. Demonstration that information produced by the measure is meaningful, understandable, and useful to the intended audience(s) for both public reporting (e.g., focus group, cognitive testing) and informing quality improvement (e.g., quality improvement initiatives). An important outcome that may not have an identified improvement strategy still can be useful for informing quality improvement by identifying the need for and stimulating new approaches to improvement.

Testing of Interpretability (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*)
3a.4 **Data/sample** *(description of data/sample and size)*: None

3a.5 **Methods** *(e.g., focus group, survey, QI project)*:
NA

3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*:
NA

3b/3c. Relation to other NQF-endorsed measures

3b.1 **NQF # and Title of similar or related measures:**
None

(for NQF staff use) **Notes on similar/related endorsed or submitted measures:**

3b. Harmonization
If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population):
3b.2 **Are the measure specifications harmonized? If not, why?**
NA

3b
C☐ P☐ M☐ N☐ NA☐

3c. Distinctive or Additive Value
3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:**
NA

5.1 **If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), Describe why it is a more valid or efficient way to measure quality:**
NA

3c
C☐ P☐ M☐ N☐ NA☐

TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Usability*?

3

Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?**
Rationale:

3
C☐ P☐ M☐ N☐

4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)

Eval Rating

4a. Data Generated as a Byproduct of Care Processes

4a.1-2 **How are the data elements that are needed to compute measure scores generated?**
Data generated as byproduct of care processes during care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition)

4a
C☐ P☐ M☐ N☐

4b. Electronic Sources

4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*)
Yes

4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**

4b
C☐ P☐ M☐ N☐

4c. Exclusions

4c

Comment [KP23]: 3b. The measure specifications are harmonized with other measures, and are applicable to multiple levels and settings.

Comment [k24]: 16 Measure harmonization refers to the standardization of specifications for similar measures on the same topic (e.g., *influenza immunization* of patients in hospitals or nursing homes), or related measures for the same target population (e.g., eye exam and HbA1c for *patients with diabetes*), or definitions applicable to many measures (e.g., age designation for children) so that they are uniform or compatible, unless differences are dictated by the evidence. The dimensions of harmonization can include numerator, denominator, exclusions, and data source and collection instructions. The extent of harmonization depends on the relationship of the measures, the evidence for the specific measure focus, and differences in data sources.

Comment [KP25]: 3c. Review of existing endorsed measures and measure sets demonstrates that the measure provides a distinctive or additive value to existing NQF-endorsed measures (e.g., provides a more complete picture of quality for a particular condition or aspect of healthcare, is a more valid or efficient way to measure).

Comment [KP26]: 4a. For clinical measures, required data elements are routinely generated concurrent with and as a byproduct of care processes during care delivery. (e.g., BP recorded in the electronic record, not abstracted from the record later by other personnel; patient self-assessment tools, e.g., depression scale; lab values, meds, etc.)

Comment [KP27]: 4b. The required data elements are available in electronic sources. If the required data are not in existing electronic sources, a credible, near-term path to electronic collection by most providers is specified and clinical data elements are specified for transition to the electronic health record.

Comment [KP28]: 4c. Exclusions should not require additional data sources beyond what is required for scoring the measure (e.g., numerator and denominator) unless justified as supporting measure validity.

4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications? No **4c.2 If yes, provide justification.**	**C☐ P☐ M☐ N☐ NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** NA	**4d C☐ P☐ M☐ N☐**
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** NA **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** NA **4e.3 Evidence for costs:** NA **4e.4 Business case documentation:** NA	**4e C☐ P☐ M☐ N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4 C☐ P☐ M☐ N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐ N☐ A☐**

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.2 Point of Contact
Greg, Pawlson, pawlson@ncqa.org, 202-955-5170-

Measure Developer If different from Measure Steward
Co.3 Organization
National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia,

Comment [KP29]: 4d. Susceptibility to inaccuracies, errors, or unintended consequences and the ability to audit the data items to detect such problems are identified.

Comment [KP30]: 4e. Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, etc.) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use).

20005

Co.4 **Point of Contact**
Greg, Pawlson, pawlson@ncqa.org, 202-955-5170-

Co.5 **Submitter If different from Measure Steward POC**
Greg, Pawlson, pawlson@ncqa.org, 202-955-5170-, National Committee for Quality Assurance

Co.6 **Additional organizations that sponsored/participated in measure development**

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**
NCQA follows a standard process of vetting members of the measurement advisory panel for conflicts of interest.

Ad.2 **If adapted, provide name of original measure:**
Ad.3-5 **If adapted, provide original specifications URL or attachment**

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 **Year the measure was first released:**
Ad.7 **Month and Year of most recent revision:** 07, 2009
Ad.8 **What is your frequency for review/update of this measure?** pproximately every 3 years, sooner if the clinical guidelines have changed significantly.
Ad.9 **When is the next scheduled review/update for this measure?**

Ad.10 **Copyright statement/disclaimers:**

Ad.11 -13 **Additional Information web page URL or attachment:**

Date of Submission (*MM/DD/YY*)**:** 03/15/2011

Page 4: [1] Comment [k5] **Karen Pace** **10/5/2009 8:59:00 AM**

4 Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multi-step process, the step with the greatest effect on the desired outcome should be selected as the focus of measurement. For example, although assessment of immunization status and recommending immunization are necessary steps, they are not sufficient to achieve the desired impact on health status – patients must be vaccinated to achieve immunity. This does not preclude consideration of measures of preventive screening interventions where there is a strong link with desired outcomes (e.g., mammography) or measures for multiple care processes that affect a single outcome.

Page 10: [2] Comment [KP14] **Karen Pace** **10/5/2009 8:59:00 AM**

2d. Clinically necessary measure exclusions are identified and must be:

- supported by evidence of sufficient frequency of occurrence so that results are distorted without the exclusion;

AND

- a clinically appropriate exception (e.g., contraindication) to eligibility for the measure focus;

AND

- precisely defined and specified:
  - if there is substantial variability in exclusions across providers, the measure is specified so that exclusions are computable and the effect on the measure is transparent (i.e., impact clearly delineated, such as number of cases excluded, exclusion rates by type of exclusion);

if patient preference (e.g., informed decision-making) is a basis for exclusion, there must be evidence that it strongly impacts performance on the measure and the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category computed separately, denominator exclusion category computed separately).

Page 10: [3] Comment [KP16] **Karen Pace** **10/5/2009 8:59:00 AM**

2e. For outcome measures and other measures (e.g., resource use) when indicated:

- an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified and is based on patient clinical factors that influence the measured outcome (but not disparities in care) and are present at start of care;**Error! Bookmark not defined.** OR

rationale/data support no risk adjustment.

Page 10: [4] Comment [k17] **Karen Pace** **10/5/2009 8:59:00 AM**

13 Risk models should not obscure disparities in care for populations by including factors that are associated with differences/inequalities in care such as race, socioeconomic status, gender (e.g., poorer treatment outcomes of African American men with prostate cancer, inequalities in treatment for CVD risk factors between men and women). It is preferable to stratify measures by race and socioeconomic status rather than adjusting out differences.

Page 10: [5] Comment [k19] **Karen Pace** **10/5/2009 8:59:00 AM**

14 With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically significant difference of one percentage point in the percentage of patients who received smoking cessation counseling (e.g., 74% v. 75%) is clinically meaningful; or whether a statistically significant difference of $25 in cost for an episode of care (e.g., $5,000 v. $5,025) is practically meaningful. Measures with overall poor performance may not demonstrate much variability across providers.