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)

### MEASURE DESCRIPTIVE INFORMATION

<table>
<thead>
<tr>
<th>De.1 Measure Title</th>
<th>De.2 Brief description of measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin prescribed at discharge for AMI</td>
<td>Percentage of acute myocardial infarction (AMI) patients who are prescribed aspirin at hospital discharge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>De.3 Type of Measure</th>
<th>De.4 National Priority Partners Priority Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>Population health</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>De.5 IOM Quality Domain</th>
<th>De.6 Consumer Care Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Living with illness</td>
</tr>
</tbody>
</table>

### CONDITIONS FOR CONSIDERATION BY NQF

- **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): **Y**
  - **A.3** Measure Steward Agreement: Government entity and in the public domain - no agreement necessary **N**
  - **A.4** Measure Steward Agreement attached: **Y**

- **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 **Y**
every 3 years. Yes, information provided in contact section

C. The intended use of the measure includes both public reporting and quality improvement.

Purpose: Payment Program

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

(for NQF staff use) Have all conditions for consideration been met?
Staff Notes to Steward (if submission returned):
Met

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, 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.

1a. High Impact

(for NQF staff use) Specific NPP goal:

1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, Leading cause of morbidity/mortality, Severity of illness, Patient/societal consequences of poor quality
1a.2

1a.3 Summary of Evidence of High Impact: In 2010, an estimated 785,000 Americans will have a new coronary event, and approximately 470,000 will have a recurrent event. An estimated additional 195,000 silent first myocardial infarctions occur each year. Approximately every 25 seconds, an American will have a coronary event, and approximately every minute, one will die. In 2004, AMI resulted in 695,000 hospital stays and $31 billion in health expenditures. The risk of further cardiovascular complications, including recurrent MI, sudden cardiac death, heart failure, stroke, and angina pectoris, among AMI survivors is substantial.


1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Aspirin use reduces the risk of death. Hospital performance rates have gradually increased over the years this measure has been reported

Rating: C=Completely; P=Partially; M=Minimally; N=Not at all; NA=Not applicable
to the public. Providers understand the importance of sending their patients home on aspirin. Ongoing use of this measure will help ensure that high performing providers maintain high performance and the relatively lower performing providers have an impetus to improve.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
National performance rates:
2Q09: 98.3%
3Q09: 98.4%
4Q09: 98.5%
1Q10: 98.5%

1b.3 Citations for data on performance gap:
Clinical warehouse data:
2Q09: 103,335 AMI patients, 3,057 hospitals
3Q09: 99,874 AMI patients, 3,019 hospitals
4Q09: 105,659 AMI patients, 3,082 hospitals
1Q10: 107,852 AMI patients, 3,096 hospitals

1b.4 Summary of data by disparity population group:
At the univariate analysis level (unadjusted odds ratios), rates ranged from 96.5% for Hispanic/Latinos, to 97.4% for African-Americans, 98.0 for Asians/Pacific Islanders, 98.5 for White/Caucasians, and 98.6% for Native Americans. The difference from the lowest to the highest rates was 2.1 percentage points. The rate for Caucasians was higher than the rates for minority groups except Native-Americans.

1b.5 Citations for data on disparities:
2009 Clinical warehouse data (Total 389,674 patients with race not missing): 310,489 Caucasian patients, 40,591 African-American patients, 28,805 Hispanic patients, 7,854 Asian/Pacific Islander patients, and 1,935 Native American patients.

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): Aspirin therapy in patients who have suffered an acute myocardial infarction reduces the risk of adverse events and mortality. Studies have demonstrated that aspirin can reduce this risk by 20%. National guidelines strongly recommend long-term aspirin for the secondary prevention of subsequent cardiovascular events in eligible older patients discharged after AMI. The initiation and indefinite continuation of aspirin is considered a Class I recommendation in ACC/AHA UA/NSTEMI and STEMI guidelines.

1c.2-3. Type of Evidence: Evidence-based guideline, Randomized controlled trial, Systematic synthesis of research, Meta-analysis

1c.4 Summary of Evidence (as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome):
Some of the strongest evidence available about the long-term benefits of therapy in patients with acute coronary events pertains to ASA. By irreversibly inhibiting COX-1 within platelets, ASA prevents the formation of thromboxane A2, thereby diminishing platelet aggregation. This platelet inhibition is the plausible mechanism for the clinical benefit of ASA, both because it is fully present with low doses of ASA and because platelets represent one of the principal participants in thrombus formation after plaque disruption. Among clinical investigations with ASA, trials in STEMI and NSTEMI have consistently documented a striking benefit of ASA compared with placebo independent of the differences in study design, such as time of entry after the acute phase, duration of follow-up, and dose used. The protective effect of ASA has been sustained for at least 1 to 2 years in clinical trials in UA/NSTEMI. Studies in patients with prior MI, stroke, or transient ischemic attack also suggest significant benefit during the first 2 years of therapy.

1c.5 Rating of strength/quality of evidence (also provide narrative description of the rating and by whom): ACCF/AHA Task Force on Practice Guidelines, Level of Evidence A: [UA/NSTEMI] Data derived from multiple randomized trials or meta-analyses, Multiple populations evaluated; [STEMI] Data derived from multiple randomized trials or meta-analyses.
randomized clinical trials or meta-analyses.

1c.6 Method for rating evidence: [UA/NSTEMI] The methodology used by the ACCF/AHA Task Force on Practice Guidelines is fully documented in their publication “Methodology Manual and Policies From the ACCF/AHA Task Force on Practice Guidelines” (http://assets.cardiosource.com/Methodology_Manual_for_ACC_AHA_Writing_Committees.pdf). The guidelines are based upon a comprehensive assessment, both electronic and manual, of the English-language medical literature. This search focuses on high-quality randomized controlled trials, meta-analyses and systematic reviews, and when applicable observational studies. In some cases where higher quality data is not available, observational studies and case series are also considered. The quality of the design and execution of these studies is determined. When appropriate, data tables are generated from the available literature. After a review of the available literature, the writing committee rates the evidence according to the schemes outlined in their publication.

[STEMI] The method of rating evidence used by the Writing Committee on the Management of Patients with ST-Elevation Myocardial Infarction in 2004 is not as well documented, but is implicitly consistent with the approach described in the ACCF/AHA methodology manual. Following comprehensive searching of the scientific and medical literature on AMI, with special emphasis on STEMI, the writing committee weighed the strength of evidence for or against a particular treatment or procedure. A level of evidence rating of “A” was given when multiple (3-5) population risk strata were evaluated (data available from clinical trials or registries about the usefulness/efficacy in different sub-populations, such as gender, age, history of diabetes, history of prior MI, history of heart failure, and prior aspirin use.) and there was general consistency of direction and magnitude of effect.

1c.7 Summary of Controversy/Contradictory Evidence: Aside from avoiding use in patients with clear contraindications to aspirin therapy, there is substantial support in existing guidelines for the use of chronic aspirin therapy for secondary prevention in patients surviving AMI.


1c.9 Quote the Specific guideline recommendation (including guideline number and/or page number):
3.2.1. Antiplatelet Therapy Recommendations (p. e45)
1. Aspirin should be administered to UA/NSTEMI patients as soon as possible after hospital presentation and continued indefinitely in patients not known to be intolerant of that medication.
6.3.1.6.8.2.1. Aspirin (p. e73)
A daily dose of aspirin (initial dose of 162 to 325 mg orally; maintenance dose of 75 to 162 mg) should be given indefinitely after STEMI to all patients without a true aspirin allergy.

[6.3.1.6.8.2.1.] Antman EM, Anbe DT, Armstrong PW, Bates ER, Green LA, Hand M, et al. 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...
### 2a. Measure Specifications

#### 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):

AMT patients who are prescribed aspirin at hospital discharge

#### 2a.2 Numerator Time Window (The time period in which cases are eligible for inclusion in the numerator):

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2a.3 Denominator Statement (Brief, text description of the denominator - what is not being measured about the target population, e.g. target condition, event, or outcome):

#### 2a.4 Denominator Exclusions (If different from numerator, provide a text description for any cases excluded from the target population):

#### 2a.5 Denominator Time Window (The time period in which cases are eligible for inclusion in the denominator):

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2b. Importing Data

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2c. Reporting Data

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2d. The measure is well defined and precisely specified so that it can be implemented consistently within and across organizations and allow for comparability.

Comment [KP8]: 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).

### 2e. The measure is effective when implemented.

#### 2e.1 Rationale:

The ACCF/AHA guidelines are widely accepted national guidelines that address the therapy of patients with AMI; they use an explicit and transparent methodology; and have thus served as the foundation of national quality measures.

#### 2e.2 USPSTF:

The USPSTF uses a high-moderate-low scale. In determining the certainty of this benefit, the ACCF/AHA uses levels of evidence A-C and USPSTF uses a high-moderate-low scale.

#### 2e.3 Reviewer grading system:

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2f. The measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented.

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2g. Evaluation criteria:

- Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented.
- (evaluation criteria)

### 3. Importance to Measure and Report

#### 3.1 Rationale for using this guideline over others:

The ACCF/AHA guidelines are widely accepted national guidelines that address the therapy of patients with AMI; they use an explicit and transparent methodology; and have thus served as the foundation of national quality measures.

#### 3.2 TAP/Workgroup: What is the threshold criterion, Importance to Measure and Report, met?

<table>
<thead>
<tr>
<th>Rationale:</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>☑</td>
</tr>
<tr>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

### 4. Scientific Acceptability of Measure Properties

#### 4.1 Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented.

<table>
<thead>
<tr>
<th>Rating</th>
<th>C</th>
<th>P</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 4.2 Evaluation criteria:

- Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented.
- (evaluation criteria)
From hospital arrival to time of hospital discharge

### 2a.3 Numerator Details

**All information required to collect/calculated the numerator, including all codes, logic, and definitions:**

Refer to http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228760129036:

- Section 1 - Data Dictionary | Alphabetical Data Dictionary - pages 1-75 through 1-76.
- Appendices | Appendix C - Medication Tables - pages Appendix C-3 through Appendix C-6.
- Section 2 - Measurement Information | Section 2.1 - Acute Myocardial Infarction (AMI) - pages AMI-2-1 through AMI-2-5.

### 2a.4 Denominator Statement

**Brief, text description of the denominator - target population being measured:**

AMI patients (International Classification of Diseases, 9th revision, Clinical Modification [ICD-9-CM] principal diagnosis code of AMI: 410.00, 410.01, 410.10, 410.20, 410.21, 410.30, 410.31, 410.40, 410.41, 410.50, 410.51, 410.60, 410.61, 410.70, 410.71, 410.80, 410.81, 410.90, 410.91)

### 2a.5 Target population gender:

- Female
- Male

### 2a.6 Target population age range:

- Greater than or equal to 18 years old

### 2a.7 Denominator Time Window

**The time period in which cases are eligible for inclusion in the denominator:**

From hospital arrival to time of hospital discharge

### 2a.8 Denominator Details

**All information required to collect/calculated the denominator - the target population being measured - including all codes, logic, and definitions:**

ICD-9-CM Principal Diagnosis codes:

- 410.00: Anterolateral wall, acute myocardial infarction-episode of care unspecified
- 410.01: Anterolateral wall, acute myocardial infarction-initial episode
- 410.10: Other anterior wall, acute myocardial infarction-episode of care unspecified
- 410.11: Other anterior wall, acute myocardial infarction-initial episode
- 410.20: Inferolateral wall, acute myocardial infarction-episode of care unspecified
- 410.21: Inferolateral wall, acute myocardial infarction-initial episode
- 410.30: Inferoposterior wall, acute myocardial infarction-episode of care unspecified
- 410.31: Inferoposterior wall, acute myocardial infarction-initial episode
- 410.40: Other inferior wall, acute myocardial infarction-episode of care unspecified
- 410.41: Other inferior wall, acute myocardial infarction-initial episode
- 410.50: Other lateral wall, acute myocardial infarction-episode of care unspecified
- 410.51: Other lateral wall, acute myocardial infarction-initial episode
- 410.60: True posterior wall, acute myocardial infarction-episode of care unspecified
- 410.61: True posterior wall, acute myocardial infarction-initial episode
- 410.70: Subendocardial, acute myocardial infarction-episode of care unspecified
- 410.71: Subendocardial, acute myocardial infarction-initial episode
- 410.80: Other specified sites, acute myocardial infarction-episode of care unspecified
- 410.81: Other specified sites, acute myocardial infarction-initial episode
- 410.90: Unspecified site, acute myocardial infarction-episode of care unspecified
- 410.91: Unspecified site, acute myocardial infarction-initial episode

### 2a.9 Denominator Exclusions

**Brief text description of exclusions from the target population:**

- Patients who have a length of stay greater than 120 days
- Patients enrolled in clinical trials
- Discharged to another hospital
- Expired
- Left against medical advice
- Discharged to home for hospice care
- Discharged to a health care facility for hospice care
- Patients with comfort measures only documented

**Comment [k9]:** 11 Risk factors that influence outcomes should not be specified as exclusions. Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.
• Patients with a documented reason for no aspirin at discharge

2a.10 Denominator Exclusion Details (All information required to collect exclusions to the denominator, including all codes, logic, and definitions):

Refer to http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228760129036:
- Appendices: Appendix C - Medication Tables PDF - pages Appendix C-3 through Appendix C-6 plus Appendix C-9, and Appendix H - Miscellaneous Tables - page Appendix H-5.

- Section 2 - Measurement Information: Section 2.1 - Acute Myocardial Infarction (AMI) - pages AMI-5 plus AMI-2-1 through AMI-2-5.

2a.11 Stratification Details/Variables (All information required to stratify the measure including the stratification variables, all codes, logic, and definitions):
N/A

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):
N/A

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

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):

2a.22 Describe the method for discriminating performance (e.g., significance testing):
Benchmarks are established using the ABC methodology, based on the actual performance of the top facilities. ABC benchmarks identify superior performance and encourage poorer performers to improve. The methodology is a data-driven, peer-group performance feedback used to positively affect outcomes.

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):
Patients admitted to the hospital for inpatient acute care with an ICD-9-CM Principal Diagnosis Code for AMI as defined in section 2a.8, a patient age greater than or equal to 18 years, and a length of stay less than or equal to 120 days would be included in the initial patient population and eligible to be sampled. Monthly Sample Size Based on Population Size (Average monthly initial patient population size: Minimum required sample size):
>= 516: 104
131-515: 20% of Initial Patient Population size
26-130: 26
< 26: 100%

2a.24 Data Source (Check the source(s) for which the measure is specified and tested)

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.):
Centers for Medicare & Medicaid Services (CMS) Abstraction & Reporting Tool (CART). Vendor tools also available.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=113

2a.32-35 Level of Measurement/Analysis (Check the level(s) for which the measure is specified and tested)
Population : National

2a.36-37 Care Settings (Check the setting(s) for which the measure is specified and tested)

2a.38-41 Clinical Services (Healthcare services being measured, check all that apply)

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample (description of data/sample and size): CDAC (Clinical Data Abstraction Center) validation sample: 3Q09.

2b.2 Analytic Method (type of reliability & rationale, method for testing):
CDAC validation sampling involves SDPS selection of sample of 5 cases/quarter across all topics (AMI, HF, Pneumonia, etc.) from each hospital with a minimum of 6 discharges (across all topics) in the Clinical Data Warehouse within 4 months + 15 days following 3Q09. Hospital-abstracted data is compared to CDAC-adjudicated data.

2b.3 Testing Results (reliability statistics, assessment of adequacy in the context of norms for the test conducted):
Aspirin Prescribed at Discharge - 97.5%
Clinical Trial - 98.9%
Comfort Measures Only - 94.3%
Reason for No Aspirin at Discharge - 75.5%

2c. Validity testing

2c.1 Data/sample (description of data/sample and size): Face validity is regularly assessed with the Technical Expert Panel responsible for reviewing and supporting the measure topic.

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

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

2d. Exclusions Justified

2d.1 Summary of Evidence supporting exclusion(s):
The exclusions of age < 18 years, length of stay > 120 days, and enrollment in a clinical trial are common to the other measures in the AMI measure set, and to the inpatient Hospital Inpatient Quality Reporting Program measure set in general. Patients with documented comfort measures only or those discharged to hospice are appropriate exclusions, as the goal in these cases is palliative care - Therefore, the non-use of aspirin is often clinically appropriate. Patients who leave against medical advice or who expire are appropriately excluded, and it is sensible for those who are discharged to another hospital (where the patient goes on to continue acute care treatment) to be omitted as well. Lastly, there are clinically important contraindications to the use of aspirin. Reasons vary, from patient refusal, aspirin allergies, and current Coumadin therapy (Coumadin prescribed at discharge), to clinical conditions such as active GI bleeding. In these types of cases, the non-use of aspirin should not count against the provider if the clinical reason for not prescribing aspirin is
documented. All exclusions in this measure (with the exception of the age, length of stay, and clinical trial) are concordant with the current ACC/AHA Clinical Performance Measures for Adults With ST-Elevation and Non-ST-Elevation Myocardial Infarction.

2d.2 Citations for Evidence:

2d.3 Data/sample (description of data/sample and size):
Clinical warehouse data: 144,251 AMI patients, 3,503 hospitals, 1Q10.

2d.4 Analytic Method (type analysis & rationale):
A frequency count was conducted to calculate the percentages outlined in section 2d.5. Frequency counts are a simple, efficient way to determine the occurrence of specific values of a data element in a given data set.

2d.5 Testing Results (e.g., frequency, variability, sensitivity analyses):
Rates of Exclusion:
- Patients with comfort measures only documented: 5.8%
- Patients enrolled in clinical trials: .5%
- Discharged/transferred to another hospital for inpatient care, discharged/transferred to a federal health care facility, discharged/transferred to hospice, expired, or left against medical advice or discontinued care: 14.7%
- Patients with a documented reason for no aspirin at discharge: 4.2%

2f. Identification of Meaningful Differences in Performance:

2f.1 Data/sample from Testing or Current Use (description of data/sample and size):
Clinical warehouse data:
2Q09: 103,335 AMI patients, 3,057 hospitals
3Q09: 99,874 AMI patients, 3,019 hospitals
4Q09: 105,659 AMI patients, 3,062 hospitals

Rating: C=Completely; P=Partially; M=Minimally; N=Not at all; NA=Not applicable
1Q10: 107,852 AMI patients, 3,096 hospitals

2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance (type of analysis & rationale):
Analysts review quarterly benchmarks established (using the ABC methodology) and trends to identify differences in performance scores and investigate the possible causes. ABC benchmarks identify superior performance and encourage poorer performers to improve. The methodology is a data-driven, peer-group performance feedback used to positively affect outcomes. If measure specifications (algorithms, data elements) are found to cause the difference in performance, they are reviewed for possible updates.

2f.3 Provide Measure Scores from Testing or Current Use (description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance):
National performance rates:
2Q09: 98.3% (benchmark 100.0%)
3Q09: 98.4% (benchmark 100.0%)
4Q09: 98.5% (benchmark 100.0%)
1Q10: 98.5% (benchmark 100.0%)

2g.1 Data/sample (description of data/sample and size): Both paper records and electronic health records can be used to collect data. Some allowances have been made as facilities incorporate EHRs in their facilities because vendors do not utilize identical data fields, but customize products according to facility need and preferences.

2g.2 Analytic Method (type of analysis & rationale):
No tests have been performed on this measure to determine comparability of sources (paper medical record vs. EHR).

2g.3 Testing Results (e.g., correlation statistics, comparison of rankings):
N/A

2h. Disparities in Care

2h.1 If measure is stratified, provide stratified results (scores by stratified categories/cohorts): Not stratified, but results according to race, sex, etc can be determined.

2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:
Since the preliminary univariate analyses suggest potential disparities (the largest difference is greater than or equal to 2.0 percentage points as described in 1b.4), further analyses are needed to control for the simultaneous effect of other potential factors such as age, gender, comorbidity, and hospital characteristics and to take into account the correlation/cluster effect of patients discharged from the same hospitals.

2. Demonstration that stratification is not necessary or not feasible.

3. USABILITY

3a. Meaningful, Understandable, and Useful Information

3a.1 Current Use: In use

Rating: C=Completely; P=Partially; M=Minimally; N=Not at all; NA=Not applicable
| 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):

Hospital Inpatient Quality Reporting Program:
- [http://www.hospitalcompare.hhs.gov/](http://www.hospitalcompare.hhs.gov/)

| 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):

Hospital Inpatient Quality Reporting Program (Measures can be used by individual hospitals for internal quality improvement):
- [http://www.hospitalcompare.hhs.gov/](http://www.hospitalcompare.hhs.gov/)

Additionally, the Joint Commission also uses this measure for accreditation.

**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): Unknown. [Feedback on the Hospital Compare website (used for public reporting) is collected through another contractor.]

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

Voluntary electronic survey by visitors to website.

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

Not available.

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

#### 3b.1 NQF # and Title of similar or related measures:

| NQF #0631: Secondary Prevention of Cardiovascular Events - Use of Aspirin or Antiplatelet Therapy |

(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):

- 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):

- **Are the measure specifications harmonized?** If not, why?

No, this measure’s specifications are not harmonized with NQF #0631 measure specifications, as the latter’s measure population uses the outpatient setting, includes patients ages 21 and older, diagnosed with IVD as defined by coronary artery disease, peripheral vascular disease or cerebrovascular disease, who are asked about aspirin use, and assesses the proportion of patients with ischemic vascular disease that are taking aspirin or an antiplatelet agent. This measure is concentrated on care of the AMI patient who is admitted for inpatient care; a completely different focus in terms of setting and care. NQF #0631 does provide for the exclusion of patients with an allergy to aspirin (or antiplatelet drugs) in the past or those with documentation of aspirin (or antiplatelet drug) contraindications, similar to this measure, but it also automatically excludes patients with evidence of metastatic disease or active treatment of malignancy (chemotherapy or radiation therapy) in the last 6 months and patients who have been in a skilled nursing facility in the last 3 months - Conditions which our team believes are relative contraindications which require that the physician specifically document a linkage to the non-use of aspirin (vs. automatic exclusion).

#### 3c. Distinctive or Additive Value

- **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:**

No NQF-endorsed measures with same topic and target population.
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:

No NQF-endorsed measures with same topic and target population.

### 4. FEASIBILITY

**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), Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)

4a.1: 4a; 4a.2: 4a

**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)

No

4b.1: 4b

**4c. Exclusions**

4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?

No

4c.1: 4c

**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.

1. Since the time of last NQF endorsement (May 2007), the HeartCare measures team met with other topic teams within the Hospital Inpatient Quality Reporting Program (namely, children’s asthma and surgical care) to examine the medication constructs being used. The measure designs at that time automatically excluded patients with a documented contraindication or reason to a medication from the measure, regardless of whether the medication ended up being prescribed. That type of design was resulting in a substantial amount of “false exclusions” from the measure. The decision was made to rearrange the measure such that patients who were prescribed the medication would remain in the measure (i.e., be included in the numerator) when a reason for not prescribing the medication was documented, effective with April 1, 2009 discharges. It is believed that the number of false exclusions has significantly decreased as a result.

2. Because the denominator exclusion “Patients with a documented reason for no aspirin at discharge” allows for any physician/advance practice nurse/physician assistant/pharmacist-documented “other reason” for not prescribing aspirin at discharge to count as an exclusion, overuse of this exclusion has the potential for distorting performance rates. However, overall trends in measure numerator and denominator counts do

### 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.

### Comment KP29:

4d. Susceptibility to inaccuracies, errors, or unintended consequences and the ability to audit the data items to detect such problems are identified.
not suggest obvious gaming of the measure. There has been no increasing trend in the use of this reason data element. Nevertheless, exclusion rates for this measure will continue to be monitored for consistency, from quarter to quarter.

3. The data elements used in this measure are closely tracked. Questions submitted by abstractors are recorded, and trends related to published abstraction guidelines and disagreements over measure inclusions and exclusions in general are discussed in-depth every 6 months. Revisions in measure specifications, including data element definitions, are made as issues surface (e.g., how to handle documentation of a hold on aspirin at discharge or a planned delay to start aspirin after discharge, what constitutes acceptable physician documentation of a reason for not prescribing aspirin). The frequency of questions pertaining to each data element are tracked by the Hospital Inpatient Quality Reporting Program QIOSC. Clearly the number of questions a data element receives is another indication of how difficult the specifications for the measure might be. Frequency reports are reviewed regularly, to help identify where issues in data element definitions may exist. Of note, in an August 2010 report run by the Hospital Inpatient Quality Reporting Program QIOSC, the number of questions about the abstraction of the two data elements unique to this measure, Aspirin Prescribed at Discharge and Reason for No Aspirin at Discharge, amounted to 15, only 3.3% of the total 458 Quest questions received for AMI for that month. Lastly, CDAC validation reports (which compare hospital data to CDAC data) and internal CDAC abstractor accuracy reports are monitored, to ensure good quality data. In sum, issues which may surface in questions submitted by users and CDAC validation/accuracy reports will continue to be closely monitored to identify any additional problems, and revisions will be made if warranted.

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:
The reordering of the “medication prescribed” and "reason for no medication" specifications done for April 1, 2009+ discharges (as described in section 4d.1) reduces abstraction burden. Abstractors no longer have to do an exhaustive search for acceptable reasons for not prescribing aspirin at discharge in cases where the patient was prescribed the aspirin, saving valuable abstraction time.

4e.2 Costs to implement the measure (costs of data collection, fees associated with proprietary measures): Varies according to data collection method (use of vendor) and type of abstractor used to collect clinical data. We have not received feedback that this measure has caused undue burden to the facilities collecting data.

4e.3 Evidence for costs: N/A

4e.4 Business case documentation: N/A

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

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.

Steering Committee: Do you recommend for endorsement?

Comments:
CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
Centers for Medicare & Medicaid Services, 7500 Security Boulevard, Baltimore, Maryland, 21244-1850

Co.2 Point of Contact
Kristie Baus, RN, MS, kristie.baus@cms.hhs.gov, 410-786-8161

Measure Developer if different from Measure Steward

Co.3 Organization
Centers for Medicare & Medicaid Services, 7500 Security Boulevard, Baltimore, Maryland, 21244-1850

Co.4 Point of Contact
Kristie Baus, RN, MS, kristie.baus@cms.hhs.gov, 410-786-8161

Co.5 Submitter if different from Measure Steward POC
Jo DeBuhr, RN, BSN, broncosrule@att.net, 303-457-3195, OFMQ

Co.6 Additional organizations that sponsored/participated in measure development
The Joint Commission

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.

This measure is reviewed and maintained by the Heart Care Technical Expert Panel. Quarterly teleconferences are held to discuss issues pertinent to this measure (and its specifications) and potential revisions. Current members:

- Frederick Masoudi, MD, MSPH, Workgroup Chair: Denver Health Medical Center, University of Colorado at Denver and Health Sciences Center
- Don Casey, MD, MPH, MBA: VP Quality and Chief Medical Officer, Atlantic Health, Rep. of the American College of Physicians
- Elizabeth Delong, PhD: Professor and Chair, Duke University, Biostatistics and Bioinformatics, Co-Director, Outcomes Research and Assessment
- Joseph Drozda, MD: Clinical Investigator, Mercy Health Research, Executive Committee Member, PCPI, Rep. of American Medical Association
- John P. Erwin, III: Professor of Medicine, Co-Director, Cardiovascular Fellowship Program, Hospital Champion, Acute Myocardial Infarction Quality Improvement, Scott and White Hospital and Clinic
- Kerri Fei: Senior Policy Analyst, Measure Development Operations, American Medical Association
- Susan Fitzgerald, RN, MS: Associate Director, Science and Quality, American College of Cardiology
- Gary Francis, MD: Professor of Medicine, University of Minnesota, Rep. of Heart Failure Society of America
- David C. Goff, MD, PhD: Professor and Chair, Department of Epidemiology and Prevention, Division of Public Health Sciences, Wake Forest University School of Medicine
- Kathleen Grady, CNS: Administrative Director, Center for Heart Failure, Bluhm Cardiovascular Institute Division of Cardiac and Thoracic Surgery, Northwestern Memorial Hospital
- Darryl Gray, MD: Medical Officer, Agency for Healthcare Research and Quality
- Lee Green, MD: Professor, University of Michigan Medical School
- Ed Havranek, MD: Professor of Medicine, Denver Health Medical Center, University of Colorado School of Medicine
- Paul A. Heidenreich: Assistant Professor of Medicine, Associate Professor by courtesy of Health Research and Policy at the VA Palo Alto Health Care System and PCOR Fellow
- Alice C. Jacobs, MD: Professor of Medicine, Director, Cardiac Cath Lab, Boston University Medical Center
- Marvin Konstam, MD: Director, Cardiovascular Center, Tufts Medical Center, Rep. of Heart Failure Society of America
- Harlan Krumholz, MD: Harold H. Hines, Jr. Professor of Medicine and Epidemiology and Public Health, Yale University School of Medicine
- Jerod Loeb, PhD: Executive Vice President, Quality Measurement & Research, The Joint Commission
- Ann [Hiniker] Loth, RN, MS, CNS: Certified Clinical Nurse Specialist, Mayo Foundation
- Joseph Messer, MD, MACC: Professor of Medicine, Rush University Medical Center, Rep. of American Medical Association

Rating: C=Completely; P=Partially; M=Minimally; N=Not at all; NA=Not applicable
<table>
<thead>
<tr>
<th>Measure Developer/Steward Updates and Ongoing Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad.2 If adapted, provide name of original measure: N/A</td>
</tr>
<tr>
<td>Ad.3-6 If adapted, provide original specifications URL or attachment</td>
</tr>
<tr>
<td><strong>Measure Developer/Steward Updates and Ongoing Maintenance</strong></td>
</tr>
<tr>
<td>Ad.6 Year the measure was first released: 1999</td>
</tr>
<tr>
<td>Ad.7 Month and Year of most recent revision: 10, 2010</td>
</tr>
<tr>
<td>Ad.8 What is your frequency for review/update of this measure? Every 6 months</td>
</tr>
<tr>
<td>Ad.9 When is the next scheduled review/update for this measure? 07, 2011</td>
</tr>
<tr>
<td><strong>Ad.10 Copyright statement/disclaimers:</strong></td>
</tr>
<tr>
<td><strong>Ad.11 -13 Additional Information web page URL or attachment:</strong></td>
</tr>
<tr>
<td><strong>Date of Submission (MM/DD/YY):</strong> 12/27/2010</td>
</tr>
</tbody>
</table>
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:
  - Intermediate outcome - evidence that the measured intermediate outcome (e.g., blood pressure, Hba1c) leads to improved health/avoidance of harm or cost/benefit.
  - Process - 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).
  - Structure - 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.
  - Patient 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.
  - Access - evidence that an association exists between access to a health service and the outcomes of, or experience with, care.
  - Efficiency - 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.

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.

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).