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 #:** 0164 **NQF Project:** Cardiovascular Endorsement Maintenance 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Fibrinolytic Therapy received within 30 minutes of hospital arrival
De.2 **Brief description of measure**: Percentage of acute myocardial infarction (AMI) patients with ST-segment elevation or LBBB on the ECG closest to arrival time receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less.
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** N/A
De.4 **National Priority Partners Priority Area:** Population health De.5 **IOM Quality Domain**: Timeliness De.6 **Consumer Care Need:** Getting better

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

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	Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal quality improvement Accountability, Payment incentive	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:** 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. 1a.4 **Citations for Evidence of High Impact:** · Lloyd-Jones D, Adams RJ, Brown TM, Carnethon M, Dai S, De Simone G, Ferguson TB, Ford E, Furie K, Gillespie C, Go A, Greenlund K, Haase N, Hailpern S, Ho PM, Howard V, Kissela B, Kittner S, Lackland D, Lisabeth L, Marelli A, McDermott MM, Meigs J, Mozaffarian D, Mussolino M, Nichol G, Roger VL, Rosamond W, Sacco R, Sorlie P, Stafford R, Thom T, Wasserthiel-Smoller S, Wong ND, Wylie-Rosett J; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2010 update: a report from the American Heart Association. Circulation. 2010;121:e46–e215.	**1a** C☐ P☐ M☐ N☐
1b. Opportunity for Improvement	**1b**

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).

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).

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Early fibrinolytic use reduces the risk of death in patients with ST segment elevation myocardial infarction (STEMI). Hospital performance rates have gradually increased over the years this measure has been reported to the public. However, despite the growing understanding by providers of the importance of promptly initiating fibrinolytic therapy in their STEMI patients, only about half of STEMI patients who are given fibrinolytic therapy as primary reperfusion therapy receive it within the 30 minute window after presentation recommended by the clinical guidelines. Ongoing use of this measure will help ensure that the relatively lower performing providers have an impetus to improve their timeliness, and that the high performing providers will maintain high performance.

C☐ P☐ M☐ N☐

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
National performance rates:
2Q09: 57.7%
3Q09: 51.5%
4Q09: 53.0%
1Q10: 54.5%

1b.3 Citations for data on performance gap:
Clinical warehouse data:
2Q09: 492 AMI patients, 252 hospitals
3Q09: 408 AMI patients, 220 hospitals
4Q09: 417 AMI patients, 230 hospitals
1Q10: 422 AMI patients, 238 hospitals

1b.4 Summary of Data on disparities by population group:
At the univariate analysis level (unadjusted odds ratios) rates ranged from 33.3% for Native Americans, to 45.6% for Hispanic/Latinos, 46.5% for African-Americans, 55.7% for White/Caucasians, and 59.0% for Asians/Pacific Islanders. The difference from the lowest to the highest rates was 25.7 percentage points. The rate for Caucasians was higher than the rates for minority groups except Asians/Pacific Islanders. However, denominators for this measure were considerably smaller than the other measures in our AMI measure set. In fact, the smallest rate of 33.3% for Native Americans was based on a denominator of 3. Excluding this group tightens the rate range and decreases the difference from lowest to highest rates from 25.7 percentage points to 13.4 percentage points.

1b.5 Citations for data on Disparities:
2009 Clinical warehouse data (Total 1,807 patients with race not missing): 1,169 Caucasian patients, 157 African-American patients, 417 Hispanic patients, 61 Asian/Pacific Islander patients, and 3 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*)**:** Time to fibrinolytic therapy is a strong predictor of outcome in patients with an acute myocardial infarction. Nearly 2 lives per 1,000 patients are lost per hour of delay. National guidelines recommend that fibrinolytic therapy be given within 30 minutes of hospital arrival in patients with STEMI.

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*)**:**
It is well established that fibrinolytic therapy provides a survival benefit for patients with STEMI based on large, well-controlled clinical trials. The mechanisms of benefit, which may have different time dependencies, include salvage of myocardium with reduced infarct size, favorable effect on infarct healing and myocardial remodeling, and reduced electrical heterogeneity and potential for life-threatening ventricular arrhythmia. An overview from 9 trials of fibrinolytic therapy (versus control) for STEMI confers an

1c
C☐ P☐ M☐ N☐

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:
○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.

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., mammography) or measures for multiple care processes that affect a single outcome.

18% relative reduction in 35-day mortality (9.6% fibrinolysis versus 11.5% control), which corresponds to a reduction of 18 deaths per 1000 patients treated when data from all patient groups are pooled. This survival benefit is maintained over the long term (up to 10 years). The efficacy of fibrinolytic agents in treating the occlusive coronary thrombus that causes STEMI diminishes with the passage of time. The earlier therapy begins, the better the outcome. Early reperfusion of ischemic myocardium within the risk region of an occluded infarct-related artery interrupts the wave front of necrosis, reduces ultimate infarct size, preserves regional and global ventricular function, and most importantly improves survival. Prompt fibrinolytic therapy can also reduce the risk of developing cardiogenic shock.

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: Data derived from multiple randomized clinical trials or meta-analyses, Multiple populations evaluated; Level of Evidence B: Data derived from a single randomized trial, or nonrandomized studies, Limited population risk strata evaluated.

1c.6 Method for rating evidence: The method of rating evidence used by the Writing Committee on the Management of Patients with ST-Elevation Myocardial Infarction in 2004 is implicitly consistent with the methodology used by the ACCF/AHA Task Force on Practice Guidelines as described 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). 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. Using 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, a level of evidence rating of "A" was given when multiple (3-5) population risk strata were evaluated and there was general consistency of direction and magnitude of effect, while a rating of "B" was given when limited (2-3) population risk strata were evaluated.

1c.7 Summary of Controversy/Contradictory Evidence: Over the last several years, primary percutaneous coronary intervention (PCI) has become the dominant reperfusion strategy for STEMI for several reasons, including better efficacy. However, primary PCI is not universally available in the US. Thus, although the number of patients receiving fibrinolysis for STEMI may be diminishing, this does not similarly diminish the need to ensure that such patients are treated in a timely and maximally effective manner. To the extent that regionalization initiatives further increase the use of primary PCI, the ability to measure the timeliness of fibrinolysis may become more challenging as the numbers of patients in centers that provide this therapy may become inadequate to generate the appropriate precision of measurement.

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

· Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardico (GISSI). Effectiveness of intravenous thrombolytic treatment in acute myocardial infarction. Lancet 1986;1:397-402.

· ISIS-2 (Second International Study of Infarct Survival) Collaborative Group. Randomised trial of intravenous streptokinase, oral aspirin, both, or neither among 17,187 cases of suspected acute myocardial infarction: ISIS-2. Lancet 1988;2:349-60.

· Wilcox RG, von der Lippe G, Olsson CG, Jensen G, Skene AM, Hampton JR. Trial of tissue plasminogen activator for mortality reduction in acute myocardial infarction. Anglo-Scandinavian Study of Early Thrombolysis (ASSET). Lancet 1988;2:525-30.

· AIMS Trial Study Group. Long-term effects of intravenous anistreplase in acute myocardial infarction: final report of the AIMS study. Lancet 1990;335:427-31.

· Lamas GA, Flaker GC, Mitchell G, et al, for the Survival and Ventricular Enlargement Investigators. Effect of infarct artery patency on prognosis after acute myocardial infarction. Circulation 1995;92:1101-9.

· Fibrinolytic Therapy Trialists' (FTT) Collaborative Group. Indications for fibrinolytic therapy in suspected acute myocardial infarction: collaborative overview of early mortality and major morbidity results from all randomised trials of more than 1000 patients. Lancet 1994;343:311-22.

· Baigent C, Collins R, Appleby P, Parish S, Sleight P, Peto R, for the ISIS-2 (Second International Study of Infarct Survival) Collaborative Group. ISIS-2: 10-year survival among patients with suspected acute myocardial infarction in randomised comparison of intravenous streptokinase, oral aspirin, both, or neither. BMJ 1998;316:1337-43.

· Franzosi MG, Santoro E, De Vita C, et al, for the GISSI Investigators. Ten-year follow-up of the first megatrial testing thrombolytic therapy in patients with acute myocardial infarction: results of the Gruppo

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.

Italiano per lo Studio della Sopravvivenza nell'Infarto-1 study. Circulation 1998;98:2659-65.
· Zeymer U, Tebbe U, Essen R, Haarmann W, Neuhaus KL, for the ALKK-Study Group. Influence of time to treatment on early infarct-related artery patency after different thrombolytic regimens. Am Heart J 1999;137:34-8.
· Reimer KA, Lowe JE, Rasmussen MM, Jennings RB. The wavefront phenomenon of ischemic cell death: 1. Myocardial infarct size vs duration of coronary occlusion in dogs. Circulation 1977;56:786-94.
· Steg PG, Bonnefoy E, Chabaud S, et al. Impact of Time to Treatment on Mortality After Prehospital Fibrinolysis or Primary Angioplasty: data from the CAPTIM randomized clinical trial. Circulation 2003;108:2851-6.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
6.2. Initial Patient Evaluation (p. e25)
1. The delay from patient contact with the healthcare system (arrival at the ED or contact with paramedics) to initiation of fibrinolytic therapy should be less than 30 minutes.
6.3.1.6.1. Reperfusion - GENERAL CONCEPTS (p. e38)
All STEMI patients should undergo rapid evaluation for reperfusion therapy and have a reperfusion strategy implemented promptly after contact with the medical system. ["The medical system goal is to facilitate rapid recognition and treatment of patients with STEMI such that door-to-needle (or medical contact–to-needle) time for initiation of fibrinolytic therapy can be achieved within 30 minutes or that door-to-balloon (or medical contact–to-balloon) time for PCI can be kept under 90 minutes."]

1c.10 Clinical Practice Guideline Citation: 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 Guidelines for the Management of Patients With Acute Myocardial Infarction). 2004.
1c.11 National Guideline Clearinghouse or other URL: http://assets.cardiosource.com/STEMI_2004.pdf

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**
Ratings made by ACCF/AHA Task Force on Practice Guidelines: Class I recommendation - Conditions for which there is evidence and/or general agreement that a given procedure or treatment is beneficial, useful, and effective.

1c.13 Method for rating strength of recommendation (*If different from USPSTF system, also describe rating and how it relates to USPSTF)***:**
The method of rating the strength of a recommendation used by the Writing Committee on the Management of Patients with ST-Elevation Myocardial Infarction in 2004 is implicitly consistent with the methodology used by the ACCF/AHA Task Force on Practice Guidelines as described 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). In sum, strength is assigned based on examination of evidence and careful assessment of benefit vs. risk. Both the ACCF/AHA Guidelines and the USPSTF assess evidence with respect to two parameters: 1) the magnitude of the benefit, and 2) the certainty of this benefit. However, they use different coding systems. In ascertaining magnitude of the benefit, the ACCF/AHA uses a Class I-III scale and 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.

1c.14 Rationale for using this guideline over others:
The ACC/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.

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☐

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.

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***):** AMI patients whose time from hospital arrival to fibrinolysis is 30 minutes or less 2a.2 **Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** From hospital arrival through 30 minutes after hospital arrival 2a.3 **Numerator Details (***All information required to collect/calculate 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 1-69 through 1-74 and 1-167 through 1-170. · Section 2 - Measurement Information | Section 2.1 - Acute Myocardial Infarction (AMI) – pages AMI-7a-1 through AMI-7a-6.	
2a.4 **Denominator Statement (***Brief, text description of the denominator - target population being measured***):** Principal diagnosis of AMI (International Classification of Diseases, 9th revision, Clinical Modification [ICD-9-CM] principal diagnosis code of AMI: 410.00, 410.01, 410.10, 410.11, 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); and ST-segment elevation or LBBB on the ECG performed closest to hospital arrival; and fibrinolytic therapy within 6 hours after hospital arrival; and fibrinolytic therapy is primary reperfusion therapy 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 through 6 hours after hospital arrival 2a.8 **Denominator Details (***All information required to collect/calculate 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	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) .

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
Fibrinolytic Administration, Fibrinolytic Administration Date, Fibrinolytic Administration Time, and Initial ECG Interpretation - Refer to http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228760129036:

· Section 1 - Data Dictionary | Alphabetical Data Dictionary – pages 1-166 through 1-170 and 1-228 through 1-231.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Exclusions:
•<18 years of age
•Patients who have a length of stay greater than 120 days
•Patients enrolled in clinical trials
•Patients received as a transfer from an inpatient or outpatient department of another hospital
•Patients received as a transfer from the emergency/observation department of another hospital
•Patients received as a transfer from an ambulatory surgery center
•Patients who did not receive fibrinolytic therapy within 30 minutes and had a reason for delay documented by a physician, advanced practice nurse, or physician assistant (e.g., social, religious, initial concern or refusal, cardiopulmonary arrest, balloon pump insertion, respiratory failure requiring intubation)

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:

· Section 1 - Data Dictionary | Alphabetical Data Dictionary – pages 1-20 through 1-21, 1-69 through 1-74, 1-90, 1-98 through 1-100, 1-117, 1-166 through 1-170, 1-204, 1-228 through 1-231, 1-307 through 1-309, and 1-392 through 1-393.
· Appendices | Appendix C - Medication Tables PDF – page Appendix C-9.
· Section 2 - Measurement Information | Section 2.1 - Acute Myocardial Infarction (AMI) – pages AMI-5 plus AMI-7a-1 through AMI-7a-6.

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***):**
Refer to http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228760129036:
Section 2 - Measurement Information | Section 2.1 - Acute Myocardial Infarction (AMI) – pages AMI-5 plus AMI-7a-1 through AMI-7a-6.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

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.

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)*
Paper medical record/flow-sheet, 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.***):**
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=1135267770141

2a.29-31 Data dictionary/code table web page URL or attachment: URL Refer to
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228760129036: Section 1 - Data Dictionary | Alphabetical Data Dictionary.

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Facility/Agency, Population: national, Program: QIO

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

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)***:**
Arrival Date – 96.9%
Arrival Time – 89.8%
Fibrinolytic Administration Date – 100.0%
Fibrinolytic Administration Time – 100.0%

2b
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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.

Clinical Trial – 98.9%
Comfort Measures Only – 94.3%
Fibrinolytic Administration – 85.0%
Initial ECG Interpretation – 89.9%
Reason for Delay in Fibrinolytic Therapy – 88.9%
Transfer From Another ED - 97.5%

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

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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. Excluding patients who are transferred in from another hospital (including that hospital's ED) or an ambulatory surgery center allows the measure to hold accountable only those providers who serve as the initial point of contact for acute care treatment of the STEMI patient (beyond emergency medical services), where prompt care of the acute STEMI is expected to be initiated. Lastly, delays in receiving fibrinolytic therapy are justifiable in a number of cases. Reasons vary, from initial patient refusal or the immediate need to stabilize a patient after an arrest, to situations where a diagnostic test is warranted to rule out a suspected bleed that would put the patient at a much higher risk for fibrinolysis. In these types of cases, the delay to fibrinolysis should not count against the provider if the patient-centered reason for the delay is documented. All exclusions in this measure (with the exception of the 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:**
· Krumholz HM, Anderson JL, Bachelder BL, Fesmire FM, Fihn SD, Foody JM, et al. ACC/AHA 2008 performance measures for adults with ST-elevation and non–ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Performance Measures (Writing Committee to Develop Performance Measures for ST-Elevation and Non–ST-Elevation Myocardial Infarction). J Am Coll Cardiol. 2008;52:2046–99.

2d.3 **Data/sample** *(description of data/sample and size)*: Clinical warehouse data: 144,157 AMI patients, 3,476 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 enrolled in clinical trials: .5%
· Fibrinolytic therapy given more than 6 hours after hospital arrival: 0.0%
· Fibrinolytic therapy not given: 16.3%
· No ST-elevation or LBBB on initial ECG: 56.6%
· Received as a transfer either from an acute care facility where they were an inpatient or outpatient or from one distinct unit of the hospital to another distinct unit of the same hospital: 23.4%

2d
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NA☐

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
•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).

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.

- Received as a transfer from the emergency/observation department of another hospital: 2.8%
- Patients who did not receive fibrinolytic therapy within 30 minutes and had a reason for delay documented by a physician/advanced practice nurse/physician assistant: 0.1%

2e. Risk Adjustment for Outcomes/ Resource Use Measures

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

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

2e.3 **Testing Results** *(risk model performance metrics)*:
N/A

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

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)*: Clinical warehouse data:
2Q09: 492 AMI patients, 252 hospitals
3Q09: 408 AMI patients, 220 hospitals
4Q09: 417 AMI patients, 230 hospitals
1Q10: 422 AMI patients, 238 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: 57.7% (benchmark 96.3%)
3Q09: 51.5% (benchmark 95.5%)
4Q09: 53.0% (benchmark 100.0%)
1Q10: 54.5% (benchmark 96.1%)

2f
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2g. Comparability of Multiple Data Sources/Methods

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

2g
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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
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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 outcome (but not disparities in care) and are present at start of care;[Error! Bookmark not defined.] OR rationale/data support no risk adjustment.

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 women). It is preferable to stratify measures by race and socioeconomic status rather than adjusting out differences.

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 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.

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.

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, 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.	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*)**:** Hospital Inpatient Quality Reporting Program: · http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138115987129 · 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.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138115987129 · http://www.hospitalcompare.hhs.gov/ **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.	**3a** C☐ P☐ M☐ N☐
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related endorsed or submitted measures:**	

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.

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?**	**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:** 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.	**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), 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** 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*) No 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.** Retooling work with HHS is expected to be completed in 2011.	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 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.**	**4c** 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.** 1. Since the time of last NQF endorsement (May 2007), feedback was received from a number of providers concerning the inclusion of any fibrinolytic administration (within the first 6 hours after hospital arrival) in this measure. Providers argued that this approach inadvertently captures a number of cases where	**4d** C☐ P☐ M☐ N☐

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.

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

fibrinolysis was not used as the primary means for reperfusion, discordant with the clinical guidelines which underlie this measure. Although it was believed that the 6 hour timeframe in place was lucrative in terms of capturing the most appropriate fibrinolysis cases for inclusion, the decision was made to make additional revisions to supplement the 6 hour inclusion criteria, in order to better net cases with fibrinolysis as the primary reperfusion strategy (reduce the number of "false inclusions"). Abstraction guidelines were revised to exclude cases where fibrinolytic therapy was given during a PCI (e.g., facilitated PCI) or after a PCI.

2. Feedback was also received from a number of providers concerning the documentation requirements of the Reason for Delay in Fibrinolytic Therapy data element. In cases where the patient experiences a cardiac arrest, or requires either intubation or balloon pump insertion, physicians/advanced practice nurses/physician assistants were required to explicitly link such a circumstance to a delay in fibrinolysis in order to meet exclusion criteria (just like any other circumstance). They argued that these are scenarios where it is inherently necessary to take the time to stabilize the patient before fibrinolysis - the linkage should be considered implicit – and that such a design was resulting in a substantial amount of "false failures" in measure results. In response, the decision was made to lift such documentation requirements for a smaller number of reasons. In these particular cases, revisions were made to allow physician/advanced practice nurse/physician assistant documentation that an arrest, intubation, or balloon pump insertion occurred within 30 mins. after hospital arrival to automatically count as an acceptable reason for why fibrinolysis may have been delayed beyond the 30 min. window, thereby excluding the case without documentation explicitly linking the reason with the delay.

3. The denominator exclusion "Patients who did not receive fibrinolytic therapy within 30 minutes and had a reason for delay documented by a physician/advanced practice nurse/physician assistant" had allowed for any physician/advanced practice nurse/physician assistant reason for delay to count as an exclusion. Feedback was later received from providers and the CDAC abstractors/validators that cases were occasionally being excluded when it was most appropriate for the case to fail – cases where there was a reason for delay in fibrinolysis that was not a clinical, patient-oriented reason, but rather a "system" type of reason (e.g., delay in receiving the fibrinolytic agent from the pharmacy, staffing issues). Revisions were made to the data element specifications for April 2007+ discharges to no longer count such reasons as acceptable. It is believed that the number of "false exclusions" has significantly decreased as a result. Yet overuse of this exclusion continues to carry the potential for distorting performance rates. Current overall trends in measure numerator and denominator counts do not suggest obvious gaming of the measure. There is 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.

4. 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., what constitutes acceptable physician documentation of a reason for a delay in fibrinolysis). The frequency of questions pertaining to each data element is 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 three data elements unique to this measure, Fibrinolytic Administration Date, Fibrinolytic Administration Time, and Reason for Delay in Fibrinolytic Therapy, amounted to 4, only .9% 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:

Revisions made to the Reason for Delay in Fibrinolytic Therapy abstraction guidelines have reduced abstraction burden. In October 2007 and October 2009, guidelines were revised so that abstractors no longer need to look for explicit physician linkage between certain specific clinical conditions and the delay in fibrinolysis (see 4d.1, #2 above). Additionally, documentation criteria for identifying a reason for delay were

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N ☐

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).

made more restrictive in October 2008 to reduce subjective interpretation by the abstractor. This decreased abstraction burden and improved reliability of the Reason for Delay in Fibrinolytic Therapy data element. Lastly, the Initial ECG Interpretation data element was significantly streamlined in April 2008, and a step-by-step abstraction methodology was constructed to help abstractors through the challenging collection of this type of data. 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*?	**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**
Centers for Medicare & Medicaid Services, 7500 Security Boulevard , Baltimore, Maryland, 21244-1850

Co.2 **Point of Contact**
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Measure Developer If different from Measure Steward
Co.3 **Organization**
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Co.5 **Submitter If different from Measure Steward POC**
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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: Associate Professor of Medicine (Cardiology), University of Colorado, Denver
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
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Harlan Krumholz, MD: Harold H. Hines, Jr. Professor of Medicine and Epidemiology and Public Health, Yale University School of Medicine
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David Nilasena, MD: Chief Medical Officer, Region VI, Centers for Medicare and Medicaid

Ad.2 If adapted, provide name of original measure: N/A
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:** 1999 Ad.7 **Month and Year of most recent revision:** 10, 2010 Ad.8 **What is your frequency for review/update of this measure?** Every 6 months Ad.9 **When is the next scheduled review/update for this measure?** 07, 2011
Ad.10 **Copyright statement/disclaimers:**
Ad.11 -13 **Additional Information web page URL or attachment:**
Date of Submission (*MM/DD/YY*)**:** 01/17/2011