**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: **ACE-I or ARB for LVSD at discharge**

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.**   1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome:

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: ACE-I or ARB prescribed at discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI to deliver defect

-free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Amsterdam EA, Wenger NK, Brindis RG et al. 2014 AHA/ACC Guideline for the Management of Patients With Non-ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 64:e139-e228.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2007 STEMI Guidelines (20) Class I  ACE inhibitors should be started and continued in all patients recovering from STEMI with LVEF less than or equal to 40% and for those with hypertension, diabetes or chronic kidney disease, unless contraindicated. (Level of Evidence: A)  ACE inhibitors should be started and continued indefinitely in patients recovering from STEMI who are not lower risk (lower risk defined as those with normal LVEF in how cardiovascular risk factors are well controlled and revascularization has been performed), unless contraindicated. (Level of Evidence: B)  Use of angiotensin receptor blockers is recommended in patients who are intolerant of ACE inhibitors and have HF or have had an IM with LVEF less than or equal to 40%. (Level of Evidence: A)  It is beneficial to use angiotensin receptor blocker therapy in other patients who are ACE-inhibitor intolerant and have hypertension. (Level of Evidence: B)  Class II  Among lower-risk patients recovering from STEMI (ie. those with normal LVEF in whom cardiovascular risk factors are well controlled and revascularization has been performed) use of ACE inhibitors is reasonable. (Level of Evidence: B)  ACC/AHA 2007 UA/NSTEMI Guidelines (21) Class I  Angiotensin-converting enzyme inhibitors should be given and continued indefinitely for patients recovering from UA/STEMI with HF, LV dysfunction (LVEF less than .40), hypertension or diabetes mellitus, unless contraindicated. (Level of Evidence: A)  An angiotensin receptor blocker should be prescribed at discharge to those UA/NSTEMI patients who are intolerant of an ACE inhibitor and who have either clinical or radiological signs of HF and LVEF less than 0.40. (Level of Evidence: A)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. An angiotensin-converting enzyme inhibitor (ACE) should be administered within the first 24 hours to all patients with STEMI with anterior location, HF, or ejection fraction (EF) less than or equal to 0.40, unless contraindicated (61,65-67). (Class I, Level of Evidence: A)  2. An angiotensin receptor blocker (ARB) should be given to patients with STEMI who have indications for but are intolerant of ACE inhibitors (64,68). (Class I, Level of Evidence: B)  2014 AHA/ACC Guideline for the Management of Patients With Non–¬ST-Elevation Acute Coronary Syndromes (11)  1. ACE inhibitors should be started and continued indefinitely in all patients with LVEF <0.40 and in those with hypertension, diabetes mellitus, or stable chronic kidney disease (CKD), unless contraindicated (69,70). (Class I, Level of Evidence: A)  2. ARBs are recommended in patients with HF or MI with LVEF less than 0.40 who are ACE inhibitor intolerant (64,71). (Class I, Level of Evidence: A) |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>> Risk  Procedure/Treatment SHOULD be performed/administered  Additional classes and detailed descriptions are in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: **Aspirin at arrival**

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Aspirin prescribed at arrival for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Amsterdam EA, Wenger NK, Brindis RG et al. 2014 AHA/ACC Guideline for the Management of Patients With Non-ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 64:e139-e228.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines (remains in effect) (19)  Class 1  Aspirin should be chewed by patients who have not taken aspirin before presentation with STEMI. The initial dose should be 162 mg (Level of Evidence: A) to 325 mg. (Level of Evidence C). Although some trials have used enteric-coated aspirin for initial dosing, more rapid buccal absorption occurs with non-enteric- coated aspirin formulations.  ACC/AHA 2007 UA/NSTEMI Guidelines (21) Class1  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. (Level of Evidence: A)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. Aspirin 162 to 325 mg should be given before primary PCI (34,36,37). (Class I, Level of Evidence: B)  2. Aspirin (162- to 325-mg loading dose) and clopidogrel (300-mg loading dose for patients <75 years of age, 75-mg dose for patients >75 years of age) should be administered to patients with STEMI who receive fibrinolytic therapy (31,38,39). (Class I, Level of Evidence: A)  2014 AHA/ACC Guideline for the Management of Patients With Non¬–ST-Elevation Acute Coronary Syndromes (11)  1. Non–enteric-coated, chewable aspirin (162 mg to 325 mg) should be given to all patients with NSTE-ACS without contraindications as soon as possible after presentation, and a maintenance dose of aspirin (81 mg/d to 162 mg/d) should be continued indefinitely (7,40-43). (Class I, Level of Evidence: A)  2. Patients not on aspirin therapy should be given non−enteric-coated aspirin (325 mg) as soon as possible before PCI (36,37,44,45). (Class I, Level of Evidence: B)  3. In patients with NSTE-ACS who are unable to take aspirin because of hypersensitivity or major gastrointestinal intolerance, a loading dose of clopidogrel followed by a daily maintenance dose should be administered (46). (Class I, Level of Evidence: B) |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | The authors of the review did not assign a grade to the overall quality of the evidence. |
| Provide all other grades and definitions from the evidence grading system | See next two responses below. |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>> Risk  Procedure/Treatment SHOULD be performed/administered  Class 1 Level B description in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | Clinical trial data support the use of anticoagulant therapy in patients with UA/NSTEMI (21). However, the specific agent recommended depends on the type of initial treatment approach chosen (ie, early invasive versus selective invasive strategy) and patient factors (ie, high bleeding risk or chronic renal insufficiency). Although the level of evidence for each agent varies, the UA/NSTEMI guidelines currently support 4 options as Class I recommendations: unfractionated heparin, enoxaparin, bivalirudin, and fondaparinux. In patients with STEMI, use of anticoagulant therapy is a Class I recommendation after fibrinolytic therapy with options including unfractionated heparin, enoxaparin, and fondaparinux (20). For primary PCI, use of anticoagulant therapy typically is limited to the cardiac catheterization laboratory.  Information regarding the overall quality of evidence across studies in not available. |
| Estimates of benefit and consistency across studies | Estimates of the benefit of Aspirin therapy across the body of evidence are not reported. |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: **Aspirin prescribed at discharge**

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Aspirin prescribed at discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Amsterdam EA, Wenger NK, Brindis RG et al. 2014 AHA/ACC Guideline for the Management of Patients With Non-ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 64:e139-e228.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines (remains in effect (19) Class I  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. (Level of Evidence: A)  ACC/AHA 2007 STEMI Guideline Update (20) Class I  For all post-PCI STEMI stent patient without aspirin resistance, allergy, or increased risk of bleeding, aspirin 162 mg to 325 mg daily should be given for at least 1 month after BMS implantation, 3 months after sirolomus0eluting stent implantation, and 6b months after paclitaxel-eluding stent implantation, after which long-term aspirin use should be continued indefinitely at a dose of 7a5 mg to 162 mg daily. (Level of Evidence: B).  ACC/AHA 2007 UA/NSTEMI Guidelines (21) Class I  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. (Level of Evidence: A)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. After PCI, aspirin should be continued indefinitely (13,33,48). (Class I, Level of Evidence: A)  2. Aspirin should be continued indefinitely (31,38,39) (Class I, Level of Evidence: A), and clopidogrel (75 mg daily) should be continued for at least 14 days (38,39) (Class I, Level of Evidence: A) and up to 1 year (Class I, Level of Evidence: C) in patients with STEMI who receive fibrinolytic therapy.  2014 AHA/ACC Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes (11)  1. After PCI, aspirin should be continued indefinitely at a dose of 81 mg to 325 mg daily (13,40,48). (Class I, Level of Evidence: B).  2. Aspirin should be continued indefinitely. The maintenance dose should be 81 mg daily in patients treated with ticagrelor and 81 mg to 325 mg daily in all other patients (40,41,43). (Class I, Level of Evidence: A). |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>> Risk  Procedure/Treatment SHOULD be performed/administered  Class 1B description in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: **Beta blocker prescribed at discharge**

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Beta Blocker prescribed at discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Amsterdam EA, Wenger NK, Brindis RG et al. 2014 AHA/ACC Guideline for the Management of Patients With Non-ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 64:e139-e228.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2007 STEMI Guideline Update (20) Class I  It is beneficial to start and continue beta-blocker therapy indefinitely in all patients who have had MI, acute coronary syndrome, or LV dysfunction with or without HG symptoms, unless contraindicated. (Level of Evidence: A)  Patients with early contraindications within the first 24 hours of STMI should be reevaluated for candidacy for beta-blocker therapy as secondary prevention. (Level of Evidence: C)  Patients with moderate or severe LV failure should receive beta-blocker therapy as secondary prevention with a gradual titration scheme. (Level of Evidence: B)  ACC/AHA 2007 UA/NSTEMI Guidelines (21) Class I   1. Beta-Blockers are indicated for all patients recovering from UA/NSTEMI unless contraindicated. (For those at low risk, see Class IIa recommendation below). Treatment should begin within a few days of the event, if not initiated acutely, and should be continued indefinitely. (Level of Evidence: B) 2. Patients recovering from UA/NSETMI with moderate or severe LV failure should receive beta- blocker therapy with a gradual titration scheme. (Level of Evidence: B)   Class IIa  If is reasonable to prescribe beta0blockers to low-risk patients (ie, normal LV function, revascularized, no high-risk features) recovering from UA/NSTEMI in the absence of absolute contraindications. (Level of Evidence: B)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. Beta blockers should be continued during and after hospitalization for all patients with STEMI and with no contraindications to their use (49,50). (Class I, Level of Evidence: B)  2014 AHA/ACC Guideline for the Management of Patients With Non–¬ST-Elevation Acute Coronary Syndromes (11)  1. In patients with concomitant NSTE-ACS, stabilized HF, and reduced systolic function, it is recommended to continue beta-blocker therapy with 1 of the 3 drugs proven to reduce mortality in patients with HF: sustained-release metoprolol succinate, carvedilol, or bisoprolol. (Class I, Level of Evidence: C)    2. Beta blockers should not be administered to patients with ACS with a recent history of cocaine or methamphetamine use who demonstrate signs of acute intoxication due to the risk of potentiating coronary spasm. (Class III, Level of Evidence: C) |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>>Risk  Procedure/Treatment SHOULD be performed/administered  Other classes and levels of evidence information are listed in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | Balancing the evidence from COMMIT and the earlier studies, the ACC/AHA STEMI and UA/NSTEMI guidelines currently give Class I (Level of Evidence: B) recommendation for early oral beta-blockers, a Class IIa recommendation for early intravenous beta-blockers in hypertensive patients  without specific contraindications (including signs of heart failure, evidence of a low output state, increased risk for cardiogenic shock [defined as age more than 70 years, systolic blood pressure less than 120 mm Hg, heart rate of 110 bpm or higher, and increased time since onset of symptoms]), and Class III (Level of Evidence: A) recommendation for intravenous beta-blockers in patients with specific contraindications to early beta-blocker therapy. |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Cardiac Rehabilitation Patient Referral From an Inpatient Setting

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Cardiac Rehabilitation referral documented at discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

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Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Taylor RS, Brown A, Ebrahim S, et al. Exercise-based rehabilitation for patients with coronary heart disease: systematic review and meta-analysis of randomized controlled trials. Am J Med. 2004;116:682– 92. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 Guideline Update for Coronary Artery Bypass Graft Surgery. Class I  Cardiac rehabilitation should be offered to all eligible patients after CABG. (Level of Evidence: B)  ACC/AHA 2004 Guideline Update for the Management of Patients with ST-Elevation Myocardial Infarction.  Class I  Cardiac rehabilitation /secondary prevention programs, when available, are recommended for patient with ST-elevation myocardial infarction, particularly those with multiple modifiable risk factors and/or those with moderate to high-risk patients in whom supervised exercise training is warranted. (Level of Evidence: C)  ACC/AHA 2002 Guideline Update for the Management of Patients with Unstable Angina and Non-ST- Segment Elevation Myocardial Infarction  Class I  Consider the referral of patients who are smokers to a smoking program or clinical and/or and outpatient CR program. (Level of Evidence: B)  ACC/AHA 2002 Guideline Update for the Management of Patients with Chronic Stable Angina Class I  Comprehensive CR program (including exercise. (Level of Evidence: B)  2014 AHA/ACC Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes (21)   1. All eligible patients with NSTE-ACS should be referred to a comprehensive cardiovascular rehabilitation program either before hospital discharge or during the first outpatient visit (38,43–45). (Class I, Level of Evidence: B)   2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (22)   1. Exercise-based cardiac rehabilitation/secondary prevention programs are recommended for patients with STEMI (44,46–48). (Class I, Level of Evidence: B) |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>>/Risk  Procedure/Treatment SHOULD be performed/administered |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | There is vast scientific evidence that physical activity is beneficial to health in general and for the prevention of ischemic heart disease and its complications specifically. The growing problem of obesity, which in turn has spurred an epidemic of diabetes, is related in part to the low level of physical activity among adults in the United States. Patients with cardiovascular disease are even less likely than the general public to participate in regular physical activity (51).  The AHA/ACC and the federal government advocate regular physical activity for all persons, including those with established heart disease. Meta-analyses and systematic reviews indicate that exercise-based cardiac rehabilitation programs improve risk factors among patients with established heart disease. Pooled data from randomized clinical trials of cardiac rehabilitation demonstrate a reduction in total mortality of approximately 20% to 30% and a reduction in cardiac mortality of approximately 30% (52– 57). Trials to date have not demonstrated superiority of comprehensive cardiac rehabilitation programs over those that incorporate exercise only (53,57). |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | The body of evidence is current. No additional studies have been identified. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Time to Primary PCI (STEMI only)

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Time to Primary PCI for STEMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

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**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Amsterdam EA, Wenger NK, Brindis RG et al. 2014 AHA/ACC Guideline for the Management of Patients With Non-ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 64:e139-e228.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines Class I  All STEMI patients should undergo rapid evaluation for reperfusion therapy and have a reperfusion therapy and have a reperfusion strategy implemented promptly after contact with the medical system. (Level of Evidence: A)  ACC/AHA 2007 UA/NSTEMI Guidelines  Class I  Patients with definite ACS and ST-segment elevation in leads v7 to v9 due to left circumflex occlusion should be evaluated for immediate reperfusion therapy. (Level of Evidence: A)  ACC/AHA 2007 STEMI Guideline Update    Class I  STEMI patients presenting to a hospital with PCI capability should be treated with primary PCI within 90 minutes of first medical contact as a systems goal. (Level of Evidence: A)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. Immediate transfer to a PCI-capable hospital for primary PCI is the recommended triage strategy for patients with STEMI who initially arrive at or are transported to a non–PCI-capable hospital, with an FMC-to-device time system goal of 120 minutes or less\* (95,96,100,101). (Class I, Level of Evidence: B)  \*The proposed time windows are system goals. For any individual patient, every effort should be made to provide reperfusion therapy as rapidly as possible |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>>/Risk  Procedure/Treatment SHOULD be performed/administered  Additional details on class descriptions are in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Time to fibrinolytic therapy

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Time to fibrinolytic for STEMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

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Statins at Discharge

Reperfusion Therapy

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Time to PCI

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**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines Class I   1. In the absence of contraindications, fibrinolytic therapy should be administered to STEM patients with symptom onset within the prior 12 hours and ST elevation greater than 0.1 mV in at least 2 contiguous precordial leads or at least 2 adjacent limb leads. (Level of Evidence: A) 2. In the absence of contraindication, fibrinolytic therapy should be administered to STEMI patients with symptoms onset within the prior 12 hours and new or presumably new LBBB. (Level of Evidence: A)   ACC/AHA 2004 STEMI Guidelines Class I  All STEMI patients should undergo rapid evaluation for reperfusion therapy and have a reperfusion strategy implement promptly after contact with the medical system. (Level of Evidence: A)  ACC/AHA 2007 UA/NSTEMI Guidelines  Class I  Patients with definite ACS and ST-segment elevation in leads v7 to v9 due to left circumflex occlusion should be evaluated for immediate reperfusion therapy. (Level of Evidence: A)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. In the absence of contraindications, fibrinolytic therapy should be administered to patients with STEMI at non–PCI-capable hospitals when the anticipated FMC-to-device time at a PCI-capable hospital exceeds 120 minutes because of unavoidable delays (72,76,77). (Class I, Level of Evidence: B)  2. When fibrinolytic therapy is indicated or chosen as the primary reperfusion strategy, it should be administered within 30 minutes of hospital arrival\* (73,75,78-80). (Class I, Level of Evidence: B)  3. In the absence of contraindications, fibrinolytic therapy should be given to patients with STEMI and onset of ischemic symptoms within the previous 12 hours when it is anticipated that primary PCI cannot be performed within 120 minutes of FMC (31,72,81-85). (Class I, Level of Evidence: A)  4. Fibrinolytic therapy should not be administered to patients with ST depression except when a true posterior (inferobasal) MI is suspected or when associated with ST elevation in lead aVR (72,86-89). (Class III, Level of Evidence: B)  5. In the absence of contraindications, fibrinolytic therapy should be administered to patients with STEMI and cardiogenic shock who are unsuitable candidates for either PCI or CABG (72,90,91). (Class I, Level of Evidence: B)  \*The proposed time windows are system goals. For any individual patient, every effort should be made to provide reperfusion therapy as rapidly as possible |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1  Benefit >>> Risk  Procedure/Treatment SHOULD be performed/administered  Additional detail on class descriptions are in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Evaluation of LV systolic function

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Evaluation of LV systolic function during the hospitalization or after discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  Amsterdam EA, Wenger NK, Brindis RG et al. 2014 AHA/ACC Guideline for the Management of Patients With Non-ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 64:e139-e228.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines (19) Class I  Left ventricular ejection fraction should be measured in all STEMI patients. (Level of Evidence: B)  ACC/AHA 2007 UA/NSTEMI Guidelines (21) Class I  A noninvasive test (echocardiogram or radionuclide angiogram) is recommended to evaluate LV function in patient with definite ACS who are not scheduled for coronary angiography and left ventriculography. (Level of Evidence: B)  ACC/AHA/ASE 2003 Guideline for the Clinical Application of Echocardiography (61) Class I  Recommendations for echocardiography in risk assessment, prognosis and assessment of therapy in acute myocardial ischemic syndromes:   * Assessment of infarct size an d extent of jeopardized myocardium (no evidence rating) * In-hospital assessment of ventricular function when the results are used to guide therapy (no evidence rating)   2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)    1. LVEF should be measured in all patients with STEMI. (Class I, Level of Evidence: C)  2014 AHA/ACC Guideline for the Management of Patients With Non–¬ST-Elevation Acute Coronary Syndromes (11)  1. A noninvasive imaging test is recommended to evaluate LV function in patients with definite ACS (56-60) . (Class I, Level of Evidence: C) |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | See Table 1 below for definitions of Class IB |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Reperfusion Therapy

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:**  Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Reperfusion therapy for STEMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211.  O'Gara PT, Kushner FG, Ascheim DD et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61:e78-140. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines Class I  All STEMI patients should undergo rapid evaluation for reperfusion therapy and have a reperfusion therapy and have a reperfusion strategy implemented promptly after contact with the medical system. (Level of Evidence: A)  ACC/AHA 2007 UA/NSTEMI Guidelines  Class I  Patients with definite ACS and ST-segment elevation in leads v7 to v9 due to left circumflex occlusion should be evaluated for immediate reperfusion therapy. (Level of Evidence: A)  Indications for Fibrinolytic Therapy ACC/AHA 2004 STEMI Guidelines Class I  1. In the absence of contraindications, fibrinolytic therapy should be administered to STEM patients with symptom onset within the prior 12 hours and ST elevation greater than 0.1 mV in at least 2 contiguous precordial leads or at least 2 adjacent limb leads. (Level of Evidence: A)  2. In the absence of contraindication, fibrinolytic therapy should be administered to STEMI patients with symptoms onset within the prior 12 hours and new or presumably new LBBB. (Level of Evidence: A)  Indications for Fibrinolytic Therapy ACC/AHA 2004 STEMI Guidelines Class I  If immediately available, primary PCI should be performed in patients with STEMI (including true posterior MI) or MI with new or presumably new LBBB who can undergo PCI of the infarct artery within 12 hours of symptom onset, if performed in a timely fashion (balloon inflation within 90 minutes of presentation ) by person skilled in the procedure (individual who perform more than 75 PCI procedures per year). The procedure should be supported by experienced personnel in an appropriate laboratory environment (performs with than 200 PCI procedure per year, of which at least 35 are primary PCI for STEMI and has cardiac surgery capability). (Level of Evidence: A)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  1. Reperfusion therapy should be administered to all eligible patients with STEMI with symptom onset within the prior 12 hours (72,94). (Class I, Level of Evidence: A)  2. Primary PCI is the recommended method of reperfusion when it can be performed in a timely fashion by experienced operators (94-96) . (Class I, Level of Evidence: A)  3. EMS transport directly to a PCI-capable hospital for primary PCI is the recommended triage strategy for patients with STEMI, with an ideal FMC-to-device time system goal of 90 minutes or less\* (97-99). (Class I, Level of Evidence: B)  4. Immediate transfer to a PCI-capable hospital for primary PCI is the recommended triage strategy for patients with STEMI who initially arrive at or are transported to a non–PCI-capable hospital, with an FMC-to-device time system goal of 120 minutes or less\* (95,96,100,101). (Class I, Level of Evidence: B)  5. In the absence of contraindications, fibrinolytic therapy should be administered to patients with STEMI at non–PCI-capable hospitals when the anticipated FMC-to-device time at a PCI-capable hospital exceeds 120 minutes because of unavoidable delays (72,76,77). (Class I, Level of Evidence: B)  6. Primary PCI should be performed in patients with STEMI and ischemic symptoms of less than 12 hours’ duration (92-94). (Class I, Level of Evidence: A)  7. Primary PCI should be performed in patients with STEMI and ischemic symptoms of less than 12 hours’ duration who have contraindications to fibrinolytic therapy, irrespective of the time delay from FMC (102,103). (Class I, Level of Evidence: B)  8. Primary PCI should be performed in patients with STEMI and cardiogenic shock or acute severe HF, irrespective of time delay from MI onset (104-107). (Class I, Level of Evidence: B)  9. In the absence of contraindications, fibrinolytic therapy should be given to patients with STEMI and onset of ischemic symptoms within the previous 12 hours when it is anticipated that primary PCI cannot be performed within 120 minutes of FMC (31,72,81-85). (Class I, Level of Evidence: A)  \*The proposed time windows are system goals. For any individual patient, every effort should be made to provide reperfusion therapy as rapidly as possible. |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1 Benefit>>>Risk  Procedure /Treatment SHOULD be performed/administered  Additional detail on class descriptions are in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Adult Smoking Cessation Advice/Counseling

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Adult smoking cessation advice/counseling prior to discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Krumholz HM, Anderson JL, Bachelder BL, 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) Developed in Collaboration With the American Academy of Family Physicians and American College of Emergency Physicians Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, and Society of Hospital Medicine. *J Am Coll Cardiol.* 2008;52(24):2046-2099. doi:10.1016/j.jacc.2008.10.012.  Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Writing  Antman EM, Anbe DT, Armstrong PW, 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). J Am Coll Cardiol. 2004;44:E1–211. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2004 STEMI Guidelines Class I  Patient counseling to maximize adherence to evidence-based post-STEMI treatments (eg, compliance with taking medication, exercise prescription ad smoking cessation ) should begin during the early phase of hospitalization, occur intensively at discharge and continue at follow-up visits with provider and through cardiac rehabilitation programs and community support groups, as appropriate. (Level of Evidence: C)  ACC/AHA 2007 STEMI Guideline Update Class I  Goal: complete cessation, no exposure to environmental tobacco smoke.  1. Status of tobacco use should be asked about at every visit. (Level of Evidence: B)  2. Every tobacco user and family members who smoke should be advised to quit at every visit. (Level of Evidence: B)  3. The tobacco use’s willingness to qit should be assessed. (Level of Evidence: B)  4. The tobacco user should be assisted by counseling and developing a plan for quitting. (Level of Evidence: B)  5. Follow-up, referral to special programs or pharmacotherapy (including nicotine replacement and pharmacological treatment) should be arranged. (Level of Evidence: B)  6. Exposure to environmental tobacco smoke at work and home should be avoided. (Level of Evidence: B)  ACC/AHA 2007 UA/NSTEMI Guidelines Class I  Smoking cessation and avoidance of exposure to environmental tobacco smoke at work and home are recommended. Follow-up, referral to special programs or pharmacotherapy (including nicotine replacement therapy) is useful, as is adopting a stepwise strategy aimed at smoking cessation (the 5 As are: Ask, advise, Assess, Assist and Arrange). (Level of Evidence: B)  Detailed discharge instsruciton for post-UA/MSTEMI patients should include education on medication, diet, exercise and smoking cessation counseling (if appropriate), referral to a cardiac rehabilitation  /secondary prevention program (hen appropriate) and the scheduling of a timely follow-up appointment. Low-risk medically treated patients and revascularized patients should return in 2 to 6 weeks, and higher-risk patients should return within 14 days. (Level of Evidence: C)  2013 ACCF/AHA Guideline for the Management of Patients With ST-Elevation Myocardial Infarction (12)  Class I   1. Encouragement and advice to stop smoking and to avoid secondhand smoke should be provided to patients with STEMI (225–228). (Level of Evidence: A)79,185–187   2014 AHA/ACC Guideline for the Management of Patients With Non–¬ST-Elevation Acute Coronary Syndromes (11)  Class I   1. Encouragement and advice to stop smoking and to avoid secondhand smoke should be provided to patients with STEMI (225–228). (Level of Evidence: A)79,185–187 |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1 Benefit>>>Risk  Procedure /Treatment SHOULD be performed/administered  Class IB and IC are defined in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | NA |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | Updated guidelines continue to support this measure. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**

**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 2377

**Measure Title**: Statin prescribed at discharge

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Overall Defect Free Care for AMI

**Date of Submission**: 11/8/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.** 1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** 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 multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Statin prescribed at discharge for AMI patients

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Time to Fibrinolytic Therapy

ASA on Arrival

ACE or ARB

for LVSF

Adult Smoking Cessation Advice/Counseling

ASA

prescribed at Discharge

Guideline and Performance Measure based treatments for AMI

Cardiac Rehab patient referral from an inpatient setting.

BB

prescribed at D/C

Statins at Discharge

Reperfusion Therapy

Defect Free Care for AMI patients and reduced mortality

Time to PCI

Evaluation of LVSF

All 11 process measures should be addressed so that the AMI patient receives the optimal and defect

free care. The above measures have long been accepted as optimal care for an AMI patient.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

X☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **Source of Systematic Review:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | Anderson JL, Adams CD, Antman EM, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines for the Management of Patients With Unstable Angina/Non-ST-Elevation Myocardial Infarction) developed in collaboration with the American College of Emergency Physicians, the Society for Cardiovascular Angiography and Interventions,and the Society of Thoracic Surgeons, endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation and the Society for Academic Emergency Medicine. J Am Coll Cardiol. 2007;50:e1–157.  Antman EM, Hand M, Armstrong PW, et al. 2007 Focused update of the ACC/AHA 2004 guidelines for the management of patients with ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol.  2008;51:210–47.  Use of Statin Post MI  LaRosa JC, He J, Vupputuri S. Effect of statins on risk of coronary disease: a meta-analysis of randomized controlled trials. JAMA. 1999; 282:2340–6. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | ACC/AHA 2007 UA/NSTEMI Guidelines (21) Class I  Hydroxymethyl glutaryl-coenzyme A reductase inhibitors (statins), in the absence of contraindication, regardless of baseline LDL-C and diet modifications, should be given to post-UA/NSTEMI patients, including postrevascularization patients. (Level of Evidence: A)  For hospitalized patients, lipid-lowering medication should be initiated before discharge. (Level of Evidence: A)  For UA/NSTEMI patients with elevated LDL-C (greater than or equal to 100 mg/dL), cholesterol-lowering therapy should be initiated or intensified to achieve an LDL-C of less than 100 mg/dL. (Level of Evidence: A)  ACC/AHA 2007 STEMI Guideline Update (20) Class I  For hospitalized patients, initiation of lipid-lowering medication is indicated as recommended below before dishcarege according to the following schedule (Level of Evidence: A):  • LDL-C shold be less than 100 mg/dL (Level of Evidence: A) and  • If baseline LDL-C is greater than or equal to 100 mg/dL, LDL lowering drug therapy should be initiated. (Level of Evidence: A)  • If on-treatment LDL-C is greater than or equal to 100 mg/dL, intensifying the LDL-lowering drug therapy (may require LDL lowering drug combination) is recommended. (Level of Evidence: A) |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | NA |
| Provide all other grades and definitions from the evidence grading system | NA |
| Grade assigned to the **recommendation** with definition of the grade | Grade 1A  Level A – Multiple (3-5) population risk strata evaluated. General consistency of direction and magnitude of effect.  Class 1 Benefit>>>Risk  Procedure /Treatment SHOULD be performed/administered  Class IB and IC are defined in Table 1 below. |
| Provide all other grades and definitions from the recommendation grading system | ACCF/AHA guideline methodology categorizes indications as class I, II, or III on the basis of a multifactorial assessment of risk and expected efficacy viewed in the context of current knowledge and the relative strength of this knowledge. These classes summarize the recommendations for procedures or treatments as follows and noted in the table below:  Classification Types  Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective.  Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment.   * + IIa: Weight of evidence/opinion is in favor of usefulness/efficacy   + IIb: Usefulness/efficacy is less well established by evidence/opinion.   Class III: Conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective e and in some cases may be harmful.   * + No Benefit- Procedure/Test not helpful or Treatment w/o established proven benefit   + Harm- Procedure/Test leads to excess cost w/o benefit or is harmful, and or Treatment is harmful   Additional detail regarding the classification of recommendation and level of evidence is provided Table 1 below:  Table 1: |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | Compelling scientific evidence indicates that HMG Co-A reductase inhibitors (statins) reduce the risk of recurrent coronary events and improve survival in patients after MI (24–28). The benefits of this therapy apply to both men and women, to patients older and younger than 65 years of age, and to diabetics (29–32). The magnitude of benefit with statins matches or exceeds benefits with other secondary prevention medications such as aspirin, beta-blockers, and angiotensin-converting enzyme inhibitors (ACEIs) in the patient after MI (26,33). On the basis of available data, the majority of individuals are candidates for statins at the time of discharge for AMI. Despite the effectiveness of statins in altering subsequent cardiovascular mortality, several prior studies have documented low treatment rates in patients with established coronary artery disease (34–39). Current gaps in care are less well characterized, however, because many of these studies involved patients from a single or a limited number of centers, enrolled in randomized clinical trials, or treated before dissemination of the most convincing clinical trial evidence. |
| Estimates of benefit and consistency across studies | NA |
| What harms were identified? | NA |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | There is a more recent guideline and performance measure set as shown below.   * Stone NJ, Robinson JG, Lichtenstein AH et al. 2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2014; 63:2889-934. * Jneid, H., Addison, D., Bhatt, D. L., Fonarow, G. C., Gokak, S., Grady, K. L., . . . Pancholy, S. (2017b). 2017 AHA/ACC Clinical Performance and Quality 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. *Journal of the American College of Cardiology, 70*(16), 2048-2090. doi:10.1016/j.jacc.2017.06.032   ACC is currently working on updating this measure to reflect the more recent guideline and performance measure set. |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**