



NCDR®
NATIONAL CARDIOVASCULAR DATA REGISTRY



AMERICAN
COLLEGE of
CARDIOLOGY

NCDR® Public Reporting Companion Guide

Diagnostic Catheterization and Percutaneous Coronary Intervention (PCI) Measures

The mission of the NCDR voluntary hospital public reporting program, as defined by the American College of Cardiology (ACC) along with its partner The Society for Cardiovascular Angiography and Interventions (SCAI), is to:

- Monitor the quality of cardiovascular patient care being provided in a transparent manner.
- Ensure reporting is based on data that is of high quality, is administered with minimal collection burden as cost-effectively as reasonable, and employs clinically valid and methodologically sound measures.
- Provide measures that are actionable and consistent with the Triple Aim of better outcomes, better care and lower costs without causing unintended consequences in access to care for any population.
- Focus on measures that include aspects of care where the patient can be engaged as part of the solution OR where there is clear evidence that individual patient risk factors have an effect on the care being provided, so should be understood to the patient.
- Foster relationships of trust through collaboration between patients and their cardiovascular care team by presenting information that is credible, understandable, and actionable.
- Empower broader discussions at the community level in improving not only the overall care being provided to individual patients but the health and wellbeing of populations.
- Enable patients and cardiovascular professionals to advocate for policies at the federal and state level that support achieving the Triple Aim.

This mission in providing open access to information on quality of care is championed by cardiovascular physicians and the members of the care team, including nurses, nurse practitioners, and physicians assistants, as an ethical responsibility of the profession.

Companion Guide to
NCDR® Public Reporting
Diagnostic Catheterization and Percutaneous Coronary Intervention (PCI) Measures

Purpose: This document is a Companion guide for the American College of Cardiology (ACC) National Cardiovascular Data Registry (NCDR®) - Diagnostic Catheterization and Percutaneous Coronary Intervention (PCI) Measures. It contains an explanation of how to read and interpret measure scores as well as the details of individual metric calculation.

Document Version and Change History

Version	Effective Date	Notes/Changes
1.0	November 2, 2015	Initial Deployment Version
2.0	November 14, 2016	Inclusion/Exclusion Criteria changed for CathPCI Metrics 8, 9, 10 and 38.
2.1	October 6, 2017	Numerator and Denominators edited for all CathPCI Metrics.
2.2	February 2, 2019	Section 1 Reporting Time Period dates updated

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Interpretation of Public Reporting Scoring

Hospital Score		State Score	
P score	75.00%	P score	62.15%
Star Rating	☆☆☆☆	Star Rating	☆☆☆☆
95% Interval Estimate	(52.15% , 86.25%)	95% Interval Estimate	(22.15% , 76.25%)

Metric Scoring: All metrics are scored using statistical models developed from the most recent calendar year data. Quality performance is represented as a percentage ranging between 0 and 100% (called a “P score”) and can be thought of as the percentage of time the metric guideline is followed. For each hospital two P scores are displayed.

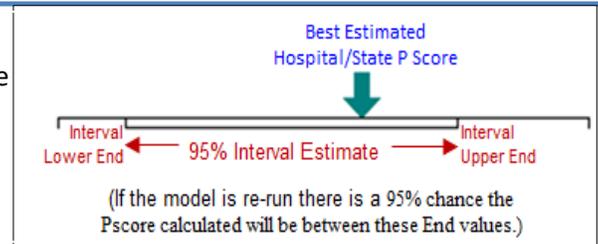
- Hospital P Score:**
 - Each hospital receives its own quality performance (P) score.
 - This score can be used to assess individual hospital performance.
 - A Higher Hospital P Score means better individual hospital quality performance.**
- State P Score:**
 - Each US state receives a quality performance (P) score.
 - This score can be used to assess performance of all the ACC hospitals within a state.
 - All hospitals within the same state will receive the same State P Score.
 - A higher State P Score means better quality performance for all hospitals across the state.**

Star Rating	P Value Range
☆☆☆☆	>0.00% - 74.99%
☆☆☆☆	75.00% - 89.99%
☆☆☆☆	90.00% - 94.99%
☆☆☆☆	95.00% - <100.00%

Star Ratings: To more easily interpret the quality performance score, hospitals and states are grouped into four (4) star categories. These star categories are set based on the recommended performance (P score) that all hospitals should achieve in their care of patients. Star cutoff values are the same for all metrics.

Example: A hospital receiving a P score of 79.00% will receive a 2 star rating as its score falls in the 2 star range of 75.00% – 84.99%.

Interval Estimate: The P score for a metric is based on the data available and therefore the scoring model accuracy depends on the amount of data for a hospital/state. There will always be some degree of uncertainty in the single P score given. The uncertainty in the P score is highest when a hospital/state has few data points and increases as more data becomes available.



The degree of belief that can be placed in an individual P score can be shown using a figure called an ‘interval estimate’. The interval is displayed as a box drawn between a Lower End value and an Upper End value. If the model were to be re-run, there is a 95% chance the P score calculated would fall in the interval between the two End values.

A smaller confidence interval box, or distance between the Lower End and Upper End values, indicates a greater confidence in the single P score given to the hospital/state. **The best estimate of the true value is the P score assigned and shown with the green arrow.**

Minimum Data: To partially account for uncertainty when less data is available, a minimum number of cases has been established in order for the model to assign a P score. By requiring a minimum amount of data we ensure a reasonable degree of confidence that any score given is truly representative of the quality of performance at that site.

The minimum number of cases per year to receive a P score for CathPCI is: 25 cases for ICD is: 11 cases

Public Reporting Measure Details

This section provides details regarding the calculation process, guidelines and relevant citations for each public reporting measure. All measures approved for Public Reporting with the ACC have been endorsed by the National Quality Forum (NQF). Details for the approval of these measures by NQF can be found on the NQF website <http://www.qualityforum.org/QPS/QPSTool.aspx> by searching for the NQF# listed in the metric table provided.

Section I: Reporting Time Period

For the measures presented data results were calculated base on patients discharge from the reported hospital during the following time period:

- CathPCI Public Reporting Measures: Jan 1 2016 – Dec 31 2016

Section II: CathPCI Public Reporting Measures

All metrics in this section pertain to hospitals treating patients receiving a diagnostic cardiac catheterization and/or a percutaneous coronary intervention (PCI, angioplasty or stent).

Measure: Use of Aspirin to reduce the chance of blood clots after PCI/angioplasty.

<p>Description: Patients should be prescribed Aspirin to reduce the risk of heart attacks caused by blood clots in new stents after having a PCI/angioplasty- unless there is a reason not to use the medicine (such as an allergy).</p> <p>This score shows how well this facility is following this guideline - higher is better. Patients who cannot take aspirin are excluded.</p>	
NQF#	0964* (This metric was endorsed as composite measure, component parts are assumed to be approved.)
Numerator	Count of patients having PCI with ASA prescribed contraindicated or blinded at discharge
Denominator	Count of PCI admissions
Inclusion Criteria	PCI during the Episode of Care Data from submissions that pass NCDR data inclusion thresholds.
Exclusion Criteria	Discharge status of “deceased” Discharge location of “other acute care hospital”, “hospice” or “against medical advice”
Clinical Rationale/ Recommendation	The 2011 PCI Guidelines - 5.7.2. Oral Antiplatelet Therapy Class I Recommendations: 3. After PCI, use of aspirin should be continued indefinitely. (Level of Evidence: A)
Relevant Citations	2011 PCI Guidelines (J Am Coll Cardiol 2011; 58:e44–122)

Measure: Use of a P2Y12 inhibitor medication to reduce the chance of blood clots after PCI/angioplasty.

Description: Patients should be prescribed a P2Y12 inhibitor medication to reduce the risk of heart attacks caused by blood clots in new stents after having a PCI/angioplasty- unless there is a reason not to use the medicine (such as an allergy).

This score shows how well this facility is following this guideline - higher is better. Patients who cannot take P2Y12 inhibitor medicines are excluded.

NQF#	0964* (This metric was endorsed as composite measure, component parts are assumed to be approved.)
Numerator	Count of patients having PCI with a Thienopyridine or P2Y ₁₂ Inhibitor (Clopidogrel, Prasugrel, Ticlopidine <i>or</i> Ticagrelor) prescribed, contraindicated or blinded at discharge
Denominator	Count of PCI admissions with a stent implanted
Inclusion Criteria	PCI admissions with a stent implanted Data from submissions that pass NCDR data inclusion thresholds.
Exclusion Criteria	Discharge status of “deceased” Discharge location of “other acute care hospital”, “hospice” or “against medical advice”
Clinical Rationale/ Recommendation	The 2011 PCI Guidelines - 5.7.2. Oral Antiplatelet Therapy Class I Recommendations: 7. The duration of P2Y12 inhibitor therapy after stent implantation should generally be as follows: a. In patients receiving a stent (BMS or DES) during PCI for ACS, P2Y12 inhibitor therapy should be given for at least 12 months. Options include clopidogrel 75 mg daily, prasugrel 10 mg daily, and ticagrelor 90 mg twice daily. (Level of Evidence: B) b. In patients receiving DES for a non-ACS indication, clopidogrel 75 mg daily should be given for at least 12 months if patients are not at high risk of bleeding. (Level of Evidence: B) c. In patients receiving BMS for a non-ACS indication, clopidogrel should be given for a minimum of 1 month and ideally up to 12 months (unless the patient is at increased risk of bleeding; then it should be given for a minimum of 2 weeks). (Level of Evidence: B)
Relevant Citations	2011 PCI Guidelines (J Am Coll Cardiol 2011; 58:e44–122)

Measure: Use of a Statin to decrease cholesterol after PCI/angioplasty.

Description: Patients should be prescribed a Statin to decrease cholesterol and reduce the risk of heart attacks after having a PCI/angioplasty- unless there is a reason not to use the medicine (such as an allergy).

This score shows how well this facility is following this guideline - higher is better. Patients who cannot take Statin medications are excluded.

NQF#	0964* (This metric was endorsed as composite measure, component parts are assumed to be approved.)
Numerator	Count of patients having PCI with Statin prescribed, contraindicated or blinded at Discharge
Denominator	Count of PCI admissions
Inclusion Criteria	Data from submissions that pass NCDR data inclusion thresholds. Patients having PCI during the Episode of Care
Exclusion Criteria	Discharge status of “deceased” Discharge location of “other acute care hospital”, “hospice” or “against medical advice”
Clinical Rationale/ Recommendation	<p>Reducing LDL-c is associated with a decrease in mortality and morbidity for patients with coronary artery disease. Lipid-lowering therapy can reduce the risk of cardiovascular outcomes.</p> <ol style="list-style-type: none"> 2011 AHA/ACCF Secondary Prevention Guidelines class I recommendation for lipid management: <ol style="list-style-type: none"> In addition to therapeutic lifestyle changes, statin therapy should be prescribed in the absence of contraindications or documented adverse effects (25–29). (Level of Evidence: A) The ACC/AHA 2007 UA/NSTEMI Guidelines recommend: Class I Recommendation: Hydroxymethyl glutaryl-coenzyme A reductase inhibitors (statins), in the absence of contraindications, regardless of baseline LDL-C and diet modification, should be given to post-UA/NSTEMI patients, <u>including postrevascularization patients</u>. (Level of Evidence: A). For UA/NSTEMI patients with elevated LDL-C (greater than or equal to 100 mg per dL), cholesterol-lowering therapy should be initiated or intensified to achieve an LDL-C of less than 100 mg per dL (Level of Evidence: A).
Relevant Citations	<ol style="list-style-type: none"> AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients With Coronary and Other Atherosclerotic Vascular Disease: 2011 Update (JACC 2011, Vol. 58, No. 23) ACC/AHA 2007 Guidelines for the Management of Patients With Unstable Angina/Non–ST-Elevation Myocardial Infarction: J Am Coll Cardiol, 2007; 50:1-157;

Measure: Use of all recommended medications (Aspirin, Statin and/or P2Y12 inhibitor medication) to reduce the chance of blood clots and decrease cholesterol after PCI/angioplasty.

Description: Patients should be prescribed Aspirin, a P2Y12 inhibitor medication, and a Statin medication after having a PCI/angioplasty to reduce the chance of blood clots in new stents ,decrease cholesterol and reduce the risk of heart attacks- unless there is a reason not to use these medicines (such as an allergy).

This score shows how well this facility is following this guideline - higher is better. Patients who cannot take all of the recommended medicines are excluded.

NQF#	0964
Numerator	<p>Patients with a stent who had Aspirin, Statin and a P2Y12 prescribed, contraindicated or blinded at discharge</p> <p>OR</p> <p>Patients without a stent who had Aspirin and Statin prescribed, contraindicated or blinded at discharge</p>
Denominator	Count of PCI Admissions
Inclusion Criteria	Data from submissions that pass NCDR data inclusion thresholds.
Exclusion Criteria	<p>Discharge status of “deceased”</p> <p>Discharge location of “other acute care hospital”, “hospice” or “against medical advice”.</p>
Clinical Rationale	<p>The 2011 PCI Guidelines - 5.7.2. Oral Antiplatelet Therapy Class I Recommendations:</p> <p>3. After PCI, use of aspirin should be continued indefinitely. (Level of Evidence: A) AND</p> <p>7. The duration of P2Y12 inhibitor therapy after stent implantation should generally be as follows:</p> <p>a. In patients receiving a stent (BMS or DES) during PCI for ACS, P2Y12 inhibitor therapy should be given for at least 12 months. Options include clopidogrel 75 mg daily, prasugrel 10 mg daily, and ticagrelor 90 mg twice daily. (Level of Evidence: B)</p> <p>b. In patients receiving DES for a non-ACS indication, clopidogrel 75 mg daily should be given for at least 12 months if patients are not at high risk of bleeding. (Level of Evidence: B)</p> <p>c. In patients receiving BMS for a non-ACS indication, clopidogrel should be given for a minimum of 1 month and ideally up to 12 months (unless the patient is at increased risk of bleeding; then it should be given for a minimum of 2 weeks). (Level of Evidence: B)</p> <p>Reducing LDL-c is associated with a decrease in mortality and morbidity for patients with coronary artery disease. Lipid-lowering therapy can reduce the risk of cardiovascular outcomes.</p> <p>1. 2011 AHA/ACCF Secondary Prevention Guidelines class I recommendation for lipid management:</p> <p>4. In addition to therapeutic lifestyle changes, statin therapy should be prescribed in</p>

	<p>the absence of contraindications or documented adverse effects (25–29). (Level of Evidence: A)</p> <p>2. The ACC/AHA 2007 UA/NSTEMI Guidelines recommend:</p> <p>Class I Recommendation: Hydroxymethyl glutaryl-coenzyme A reductase inhibitors (statins), in the absence of contraindications, regardless of baseline LDL-C and diet modification, should be given to post-UA/NSTEMI patients, including post revascularization patients. (Level of Evidence: A).</p>
<p>Relevant Citations</p>	<p>2011 PCI Guidelines (J Am Coll Cardiol 2011; 58:e44–122) AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients With Coronary and Other Atherosclerotic Vascular Disease: 2011 Update (JACC 2011, Vol. 58, No. 23) ACC/AHA 2007 Guidelines for the Management of Patients With Unstable Angina/Non–ST-Elevation Myocardial Infarction: J Am Coll Cardiol, 2007; 50:1-157; This measure has been endorsed by the National Quality Forum, measure 964 (http://www.qualityforum.org/Measures_List.aspx?#k=)</p>