Pericutaneous Coronary
Interventions Report
Form DOH-3331

Instructions and Data Element Definitions
2019 Data Collection
12/1/2018 – 11/30/2019 Discharges

CARDIAC SERVICES PROGRAM CONTACTS:
One University Place, Suite 218
Rensselaer, NY 12144-3455
Phone: (518) 402-1016
Fax: (518) 402-6992

Kimberly S. Cozzens MA, Program Director, kimberly.cozzens@health.ny.gov
Cynthia L. Johnson, PCI and Special Projects Coordinator, cynthia.johnson@health.ny.gov
Diane Fanuele, MS, Clinical Data Coordinator, diane.fanuele@health.ny.gov
## Table of Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision Highlights and Coding Clarification</td>
<td>6</td>
</tr>
<tr>
<td>PCIRS Data Reporting Policies</td>
<td>7</td>
</tr>
</tbody>
</table>

### ITEM-BY-ITEM INSTRUCTIONS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFI Number</td>
<td>11</td>
</tr>
<tr>
<td>Sequence Number</td>
<td>11</td>
</tr>
</tbody>
</table>

### I. Patient Information

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name</td>
<td>11</td>
</tr>
<tr>
<td>Medical Record Number</td>
<td>11</td>
</tr>
<tr>
<td>Social Security Number</td>
<td>11</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>12</td>
</tr>
<tr>
<td>Sex</td>
<td>12</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>12</td>
</tr>
<tr>
<td>Race</td>
<td>12</td>
</tr>
<tr>
<td>ZIP Code</td>
<td>13</td>
</tr>
<tr>
<td>Hospital Admission Date</td>
<td>13</td>
</tr>
<tr>
<td>Primary Payer</td>
<td>13</td>
</tr>
<tr>
<td>Medicaid</td>
<td>14</td>
</tr>
<tr>
<td>PFI of Transferring Hospital</td>
<td>14</td>
</tr>
</tbody>
</table>

### II. Procedural Information

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital That Performed Diagnostic Cath</td>
<td>15</td>
</tr>
<tr>
<td>Primary Physician Performing PCI</td>
<td>15</td>
</tr>
<tr>
<td>Date of PCI</td>
<td>15</td>
</tr>
<tr>
<td>Time of First Interventional Device</td>
<td>16</td>
</tr>
<tr>
<td>Diagnostic Cath During Same Lab Visit</td>
<td>16</td>
</tr>
<tr>
<td>Previous PCI This Admission</td>
<td>16</td>
</tr>
<tr>
<td>PCI Prior to This Admission</td>
<td>17</td>
</tr>
<tr>
<td>Follow-up PCI - Staged Procedure</td>
<td>17</td>
</tr>
<tr>
<td>Contrast Volume</td>
<td>17</td>
</tr>
<tr>
<td>Access Site</td>
<td>18</td>
</tr>
<tr>
<td>Dose Area Product</td>
<td>18</td>
</tr>
</tbody>
</table>

### III. Vessels Diseased and Lesion-Specific Information

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessels Diseased</td>
<td>19</td>
</tr>
<tr>
<td>Previous LIMA Use</td>
<td>20</td>
</tr>
<tr>
<td>Coronary Dominance</td>
<td>20</td>
</tr>
<tr>
<td>MLA Measurement Type</td>
<td>20</td>
</tr>
<tr>
<td>Flow Measurement Type</td>
<td>20</td>
</tr>
</tbody>
</table>
# Table of Contents (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>III. Vessels Diseased and Lesion-Specific Information (continued)</strong></td>
<td></td>
</tr>
<tr>
<td>Lesion-Specific Information</td>
<td>21</td>
</tr>
<tr>
<td>Location</td>
<td>21</td>
</tr>
<tr>
<td>Bypassed (A or V)</td>
<td>21</td>
</tr>
<tr>
<td>Bypass Stenosis</td>
<td>21</td>
</tr>
<tr>
<td>% Pre-Op Stenosis</td>
<td>22</td>
</tr>
<tr>
<td>MLA</td>
<td>22</td>
</tr>
<tr>
<td>FFR/iFR</td>
<td>22</td>
</tr>
<tr>
<td>Previous PCI</td>
<td>22</td>
</tr>
<tr>
<td>Device 1 and Device 2</td>
<td>22</td>
</tr>
<tr>
<td>Stent 1 and Stent 2</td>
<td>23</td>
</tr>
<tr>
<td>Lesion Description</td>
<td>24</td>
</tr>
<tr>
<td>% Post-Op Stenosis</td>
<td>25</td>
</tr>
<tr>
<td><strong>IV. Cardiac Presentation</strong></td>
<td></td>
</tr>
<tr>
<td>Cardiac Presentation</td>
<td>26</td>
</tr>
<tr>
<td>Angina Classification Within 2 Weeks</td>
<td>28</td>
</tr>
<tr>
<td>Mode of Arrival to First Facility</td>
<td>29</td>
</tr>
<tr>
<td>Thrombolytics</td>
<td>29</td>
</tr>
<tr>
<td>Onset of Ischemic Symptoms</td>
<td>30</td>
</tr>
<tr>
<td>First Medical Contact</td>
<td>30</td>
</tr>
<tr>
<td>Arrival at Transferring Hospital</td>
<td>30</td>
</tr>
<tr>
<td>Arrival at PCI Hospital</td>
<td>31</td>
</tr>
<tr>
<td>Onset Time, Estimated</td>
<td>31</td>
</tr>
<tr>
<td>New ST ↓ or T ↓</td>
<td>31</td>
</tr>
<tr>
<td>TIMI &lt; II</td>
<td>31</td>
</tr>
<tr>
<td>Ongoing Ischemia at Time of Procedure</td>
<td>31</td>
</tr>
<tr>
<td>Killip Class 2 or 3</td>
<td>32</td>
</tr>
<tr>
<td><strong>V. Pre-Intervention Risk Factors</strong></td>
<td></td>
</tr>
<tr>
<td>PCI Status</td>
<td>33</td>
</tr>
<tr>
<td>Height</td>
<td>34</td>
</tr>
<tr>
<td>Weight</td>
<td>34</td>
</tr>
<tr>
<td>Stress Test Findings</td>
<td>34</td>
</tr>
<tr>
<td>Coronary CT Angiography Results</td>
<td>36</td>
</tr>
<tr>
<td>Agatston Coronary Calcium Score</td>
<td>37</td>
</tr>
<tr>
<td>Anti-Anginal Medication Within 2 Weeks</td>
<td>37</td>
</tr>
<tr>
<td>Ejection Fraction and Measure</td>
<td>38</td>
</tr>
<tr>
<td>Creatinine</td>
<td>38</td>
</tr>
<tr>
<td>Aortic Valve Area</td>
<td>39</td>
</tr>
</tbody>
</table>
## Table of Contents (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>V. Pre-Intervention Risk Factors (continued)</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-Intervention Risk Factors (None)</td>
<td>39</td>
</tr>
<tr>
<td>Previous PCIs</td>
<td>39</td>
</tr>
<tr>
<td>Previous MI (most recent)</td>
<td>40</td>
</tr>
<tr>
<td>Neurological Event</td>
<td>40</td>
</tr>
<tr>
<td>Arterial Imaging Test</td>
<td>40</td>
</tr>
<tr>
<td>Cervical or Cerebrovascular Procedure</td>
<td>41</td>
</tr>
<tr>
<td>Cardiac Arrest</td>
<td>41</td>
</tr>
<tr>
<td>Anoxic Brain Injury Criteria</td>
<td>42</td>
</tr>
<tr>
<td>Cardiogenic Shock</td>
<td>42</td>
</tr>
<tr>
<td>Refractory Cardiogenic Shock</td>
<td>43</td>
</tr>
<tr>
<td>Peripheral Vascular Disease</td>
<td>44</td>
</tr>
<tr>
<td>Heart Failure, Current</td>
<td>45</td>
</tr>
<tr>
<td>Heart Failure, Past</td>
<td>45</td>
</tr>
<tr>
<td>Malignant Ventricular Arrhythmia</td>
<td>46</td>
</tr>
<tr>
<td>Chronic Lung Disease</td>
<td>47</td>
</tr>
<tr>
<td>Diabetes</td>
<td>48</td>
</tr>
<tr>
<td>Diabetes Therapy</td>
<td>49</td>
</tr>
<tr>
<td>Renal Failure, Dialysis</td>
<td>50</td>
</tr>
<tr>
<td>Previous CABG Surgery</td>
<td>50</td>
</tr>
<tr>
<td>Emergency PCI Due to DX Cath Complication</td>
<td>50</td>
</tr>
<tr>
<td>Stent Thrombosis</td>
<td>51</td>
</tr>
<tr>
<td>Any Previous Organ Transplant</td>
<td>51</td>
</tr>
<tr>
<td>High Risk of Bleeding</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VI. Major Events Following PCI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>52</td>
</tr>
<tr>
<td>Stroke</td>
<td>52</td>
</tr>
<tr>
<td>Q-Wave MI</td>
<td>52</td>
</tr>
<tr>
<td>Acute Occlusion in the Targeted Lesion</td>
<td>52</td>
</tr>
<tr>
<td>Acute Occlusion in a Significant Side Branch</td>
<td>53</td>
</tr>
<tr>
<td>A/V Injury at Cath Entry Site, Requiring Intervention</td>
<td>53</td>
</tr>
<tr>
<td>Renal Failure</td>
<td>53</td>
</tr>
<tr>
<td>Emergency Cardiac Surgery</td>
<td>54</td>
</tr>
<tr>
<td>Stent Thrombosis</td>
<td>54</td>
</tr>
<tr>
<td>Emergency Return to the Cath Lab for PCI</td>
<td>54</td>
</tr>
<tr>
<td>Coronary Perforation</td>
<td>54</td>
</tr>
</tbody>
</table>
# Table of Contents (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII. Discharge Information</td>
<td></td>
</tr>
<tr>
<td>Additional Procedure Planned - Staged Procedure</td>
<td>55</td>
</tr>
<tr>
<td>Discharge Status</td>
<td>55</td>
</tr>
<tr>
<td>Hospital Discharge Date</td>
<td>56</td>
</tr>
<tr>
<td>30-Day Status</td>
<td>56</td>
</tr>
</tbody>
</table>

## Attachments

A: PFI Numbers for Cardiac Diagnostic and Surgical Centers  
B: Page Intentionally Left Blank  
C: Payer Codes  
D: Codes for Location of Lesion  
E: Device and Stent List
**Revision Highlights and Coding Clarification**

**Data Element Updates**

There are no new or deleted data elements for 2019 Discharge Year (discharges from 12/1/2018-11/30/2019). There are several data element definition changes or additional clarifications which are highlighted below and detailed in the full text of the document.

**Revised or Updated Data Elements**

Medical Record Number: May now include characters A-Z and 0-9.

Vessels Diseased: A clarification on use of FFR to document vessels diseased has been added.

Thrombolytic Use: A reporting clarification has been added.

Peripheral Vascular Disease: Additional examples of acceptable conditions have been added.

Renal Failure, Dialysis: This risk factor may now be reported for dialysis that is initiated in the same hospital stay as PCI (but prior to the procedure).

Heart Failure: The name of the data element has changed and guidance on when to report the risk factor has been added.
PCIRS Data Reporting Policies

PCIRS Reportable Cases
A PCIRS form should be created for any performed or attempted PCI. A PCI is considered attempted when the guidewire leaves the catheter.

The following circumstances do not require creation of a PCIRS form despite the fact that the guidewire has left the catheter:

- IVUS/OCT and/or FFR/ iFR with no intent or attempt to perform PCI.
- Administration of intra-coronary nitroglycerin when no other device is used or attempted is not a reportable PCI. If used in the same procedure as a reportable device, intra-coronary nitroglycerin is not a reportable device.
- Coil embolization when no other device is used or attempted is not a reportable PCI. If used in the same procedure as a reportable device, report with code ‘99’.
- PCI performed in the same setting as a transcatheter valve replacement is only reportable if it was part of a planned procedure for pre-existing coronary artery disease. PCI required in the same setting as transcatheter valve because of a complication of the valve procedure is not a reportable PCI. Passing a wire (with or without stent) as a prophylactic measure during a transcatheter valve replacement procedure is not a reportable PCI. These procedures must be represented on the CSRS form with a procedure code 711.

End of PCI, Generation of a New Form
A PCI is considered finished when the patient leaves the cath lab. This is defined in its most narrow interpretation – the actual room in which the procedure was performed. If a patient leaves the actual procedure room, but remains in a holding room, staging area or even an adjacent hallway and returns to a procedure room for another PCI, a new form should be generated.

Physician Assignment
When multiple records exist for the same patient during a hospital admission, and two or more physicians were reported for those procedures, the case will be assigned for analysis to the physician performing the first PCI. However, the hospital may submit a letter from the CEO or Medical Director requesting that the case be assigned to the physician performing a later PCI.
**Hospice Policy**

Beginning with patients discharged on or after January 1, 2003, any patient that is discharged from the hospital after cardiac surgery or PCI to hospice care (inpatient or home with hospice care) and is still alive 30 days after the discharge from the hospital will be analyzed as a live discharge.

All patients discharged to a hospice or home with hospice care should continue to be reported with Discharge Status – 12: Hospice. If a patient is still alive 30 days after discharge, whether in hospice or not, appropriate supporting documentation should be sent to Cardiac Services Program. Examples of appropriate documentation include: a dated progress note from the hospice service, evidence of a follow-up doctor’s visit 30 days after discharge, evidence of subsequent hospital admission 30 days after initial discharge, evidence of death 30 days or more after initial discharge. It will be the responsibility of the hospital (physician) to send documentation to the Department of Health’s Cardiac Services Program to support this change. Upon receipt, review, and verification of the documentation, Cardiac Services Program staff will change the discharge status from dead to alive for purposes of analysis. All documentation must be received before the final volume and mortality for a given year of data is confirmed by the hospital.

**Refractory Shock Cases**

Effective January 1, 2015, cases with the risk factor “Refractory Cardiogenic Shock” will be excluded from provider specific publicly released reports and analyses. Cases with the new risk factor “Cardiogenic Shock” will remain in analysis.

This continues the shock exclusion policy which was initiated in 2006 and reflects revised definitions and variable names. All excluded cases must meet the NYS Cardiac Services Program definition of Refractory Cardiogenic Shock and will be subject to medical record documentation review.

All cases will continue to be reported electronically and will be subject to data verification and quality monitoring activities. To ensure that the appropriate cases are identified as “Refractory Cardiogenic Shock” cases, submission of medical record documentation for any case reported with this risk factor will be required. If appropriate documentation is not provided by your center, the risk factor will be removed from the data and the case will be included in analysis. Medical record documentation will also be required for any case reported with the risk factor “Cardiogenic Shock.”

It is strongly suggested that all appropriate staff closely review the definitions and documentation requirements for these two risk factors.
Anoxic Brain Injury Exclusion

As announced in August 2017 and first applied to cases from the 2016 reporting year, **cases meeting the Anoxic Brain Injury Pre-PCI Criteria** will be excluded from Department of Health analysis and public reporting. Patients meeting these criteria will all have documented pre-procedural acute MI, cardiac arrest, and a coma-like condition prior to the procedure. Full details of documentation requirements can be found in the main body of this document under "Anoxic Brain Injury Criteria".

This is an expansion of the exclusion criteria first adopted in 2010 which required in addition to the pre-PCI criteria that the patient expired under specific conditions and with evidence of severe, persistent anoxic encephalopathy. This policy is the result of ongoing discussions with NYS providers, careful deliberations among the New York State Cardiac Advisory Committee (CAC) members, and feedback provided through the 2007 and 2008 annual cause of death surveys.

All PCI patients will continue to be reported to the PCIRS database. During the validation process, hospitals will be expected to provide medical record documentation to confirm the accuracy of reporting for this element.

Alignment with STS Data Elements

As noted in the main body of this document, some data element definitions are aligned with STS Adult Cardiac Surgery data elements. Please note, every attempt has been made to assure accurate and complete definitional alignment at the time the NYS PCIRS data element definitions are released. The definitions presented here should be used for all PCIRS data reporting unless a clarification or amendment is issued by the Cardiac Services Program. Changes to STS data elements, definitions, clarifications or interpretations that occur during the data collection period do not supersede the PCIRS definitions and reporting instructions issued by the Cardiac Services Program.
PCIRS Data Reporting Policies (continued)

Reporting Schedule
PCIRS data is reported quarterly by discharge date. It is due to the Cardiac Services Program one month after the end of the quarter. The 2019 reporting schedule is as follows:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Discharges</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12/01/18 – 02/28/19</td>
<td>04/01/19</td>
</tr>
<tr>
<td>2</td>
<td>03/01/19 – 05/31/19</td>
<td>07/01/19</td>
</tr>
<tr>
<td>3</td>
<td>06/01/19 – 08/31/19</td>
<td>10/01/19</td>
</tr>
<tr>
<td>4</td>
<td>09/01/19 – 11/30/19</td>
<td>01/06/20</td>
</tr>
</tbody>
</table>

Limited extensions to the above deadlines will be granted on a case by case basis when warranted by extenuating circumstances. They must be requested in writing prior to the required submission date.
Item-By-Item Instructions

PFI Number

Variable Name: PFI

The PFI Number is a Permanent Facility Identifier assigned by the Department of Health. Enter your facility’s PFI Number as shown in Attachment A.

Sequence Number

Variable Name: SEQUENCE

If your facility assigns a sequence number to each case on a chronological flow sheet or similar log, enter the sequence number here. The sequence number is not required for the Percutaneous Coronary Interventions Reporting System, but has been included on the form to assist facilities in identifying and tracking cases.

I. Patient Information

Patient Name

Variable Names: LASTNAME, FIRSTNAME

Enter the patient’s last name followed by his/her first name.

Medical Record Number

Variable Name: MEDRECNO

Enter the patient’s medical record number.

Reporting Note:
Characters A-Z and 0-9 may be reported. Do not report punctuation or other symbols of any kind in the medical record number.

Social Security Number

Variable Name: SSNO

Enter the patient’s social security number as shown in the medical record. If the medical record does not contain the patient’s social security number, leave this item blank.
I. Patient Information (continued)

Date of Birth

Variable Name: DOB

Enter the patient’s exact date of birth.

Sex

Variable Name: SEX

Check the appropriate box for the patient’s sex at birth.

Note: In the absence of any other information, it is reasonable to assume that the sex at birth is the same as at the time of admission.

Ethnicity

Variable Name: ETHNIC

Check the appropriate box.

Note: The term “Hispanic” refers to persons who trace their origin or descent to Mexico, Puerto Rico, Cuba, Central and South America or other Spanish cultures.

Race

Variable Names: RACE, RACESPEC

Select the appropriate code below:

1 White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

2 Black or African American. A person having origins in any of the black racial groups of Africa. Terms such as “Haitian” or “Negro” can be used in addition to “Black or African American.”

3 Native American / American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

4 Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
I. Patient Information (continued)

Race (continued)

5 Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

8 Other. Report for those responses that are not covered by an above category. Please provide the specific race for any case marked “Other.”

Note:
Race should be based on the patient’s racial/ethnic origins, which is not necessarily the same as their country or place of origin.

Indicate “multi-racial” by checking “8-Other” and providing details in the “specify” field.

For White Hispanics, check “White.” For Black Hispanics, check “Black.”

ZIP Code

Variable Names: ZIPCODE, STATE

For patients residing in NYS, enter the ZIP Code of the primary residence. If the patient lives outside NYS, enter ‘99999’ and print the name of the state or country where the patient resides in the space provided. If you enter a valid NYS ZIP Code then the “State or Country” field should be left blank.

If the patient is from a foreign country, but is staying in the US during the peri-PCI time period, you must enter 99999 and print the name of the country that the patient is from. Do not enter the residence code of where the patient is staying in the US.

Hospital Admission Date

Variable Name: ADMIDATE

Enter the date that the current hospital stay began.

Note: Report the date that the patient arrived to the hospital, even if it is not equal to the technical “admission date” (i.e., this date may be prior to official inpatient status).

Primary Payer

Variable Name: PRIMEPAY

Enter the primary source of payment for this hospital stay as shown in Attachment C.

Please note that Workers Compensation, Family Health Plus, and Other Federal Programs are reported as code “19 – Other.”
I. Patient Information (continued)

Primary Payer (continued)

Interpretation:
For “Medicaid Pending” code Primary Payer as “11 – Self-Pay” and check the box for Medicaid.

For patients in prison, code Primary Payer as “19 – Other.”

Please note the difference between “07 – Other Private Insurance Company” and “19 – Other.” Code 07 refers to a Private Insurance Company (also referred to as “Commercial” insurance) that is not listed elsewhere. Code 19 is any other type of insurance that is not given a code of its own (e.g. Corrections).

If the patient has Blue Cross and Medicare, code Medicare if there is no indication of which is primary.

Report a PPO (Preferred Provider Organization) as Code 06 – HMO/Managed Care.

If a patient has Medicare or Medicaid, but you do not know if it is Fee for Service or Managed Care, report Fee for Service.

Medicaid

Variable Name: MEDICAID

Check this box if the patient has Medicaid that will provide payment for any portion of this hospital admission. If the patient’s primary payer is Medicaid, check this box in addition to entering “03” or “04” under Primary Payer.

PFI of Transferring Hospital

Variable Name: TRANS_PFI

If the patient was transferred from another Acute Care Facility, enter the PFI of the transferring hospital.

This element only needs to be completed for transfer patients.

A listing of PFI for cardiac diagnostic centers in NYS is provided in Attachment A. If transferred from a Veterans Administration hospital in NYS, enter 8888; if transferred from outside NYS, enter 9999. For patients transferred from another hospital in NYS, please see http://www.health.ny.gov/statistics/sparcs/reports/compliance/alpha_facilities.htm for a complete listing of NYS hospitals, including PFI.

Note: PFI on the above website is listed as 6 digits. For purposes of cardiac reporting, PFI should always be four (4) numeric characters. Do not report the first two digits as provided on the linked website.
II. Procedural Information

Hospital That Performed Diagnostic Cath

Variable Name: CATH_PFI

If the angioplasty was preceded by a diagnostic catheterization, enter the name and PFI number of the hospital in the space provided. If the catheterization was at a cardiac diagnostic center in NYS, enter its PFI Number from Attachment A; if done at a Veterans Administration hospital in NYS, enter 8888; if done outside NYS, enter 9999. If there was no diagnostic catheterization, leave this item blank.

Note: Do not use this field to report any diagnostic procedure (e.g. CTA) other than catheterization

Diagnostic Catheterization Hospital name is included on the paper form for abstractor convenience. It is not part of the PCIRS file structure.

Primary Physician Performing PCI

Variable Name: PHYSNUM

Enter the name and National Provider Id (NPI) number of the primary physician who performed the PCI.

Note: Physician name is included on the paper version of the data collection form for abstractor convenience. Physician name is not part of the required PCIRS data structure.

Date of PCI

Variable Name: PCI_DATE

Enter the date on which the PCI was performed.

Clarification: The date reported should be the date on which the first interventional device was deployed.
II. Procedural Information (continued)

Time of First Interventional Device

*Variable Names: PCI_HR, PCI_MIN*

Report the earliest time of any of the following: Balloon inflation, stent deployment, treatment of lesion (e.g. thrombectomy/aspiration device, atherectomy, etc.).

Time should be reported using military time (e.g. 1:00 am is 01:00, and 1:00 pm is 13:00).

**Interpretation:**
In the case of an attempted PCI when no interventional device can be deployed, report the time that the guide-wire leaves the catheter.

Diagnostic Cath During Same Lab Visit

*Variable Name: CATHSAME*

If a full diagnostic catheterization was performed during the same cath lab visit as the PCI, then check “Yes.” Otherwise check “No.”

**Interpretation:**
This does NOT include the case where there was a “quick look” done on the vessel to have the intervention. The diagnostic cath does not have to be every vessel, but should be a complete diagnostic of the area of interest.

Previous PCI This Admission

*Variable Name: PCISAME, SAMEDATE*

For patients who have had a previous PCI during this admission, check “Yes.” Otherwise check “No.”

**Interpretation:**
If “Yes,” it is very important to enter the date of this procedure. It is this date that aids in combining multiple procedures on the same date in the proper order.
II. Procedural Information (continued)

PCI Prior to This Admission

Variable Name: PCIPRIOR, PRIODATE

For patients who have had a PCI prior to this admission, check “Yes” and report the date of the most recent PCI prior to this admission.

If only the month and year are known, use 01 for the day and write in the correct month and year. If only the year is known, write in 01 for both the month and the day then the correct year. If the year of the procedure is also unknown, enter the date as 01/01/1900.

Follow-up PCI – Staged Procedure

Variable Name: PART2

Use the following codes to indicate if the current procedure is in follow-up to a previous PCI or CABG as part of a staged treatment strategy.

0 No, not a staged follow-up to a previous procedure.
1 Yes, staged follow-up to a previous PCI
2 Yes, staged follow-up to a previous CABG
3 Yes, staged follow-up to a previous Valve procedure

The follow-up PCI in a staged procedure would be a non-emergency PCI occurring after completion, but within 60 days, of an initial PCI, CABG or Valve procedure.

In a follow-up to PCI or CABG the intervention is at a different lesion location than the previous procedure. Typically, the intervention is on a different vessel than was treated in the first procedure.

Interpretation:
“Valve procedure” in this context includes surgical and transcatheter valve procedures.

The following scenario would NOT be considered a staged procedure:
The first PCI was unsuccessful and the patient returns to the lab at a later point for another attempt.

Contrast Volume

Variable Name: CONTRAST

Report the total contrast used (ml) for this lab visit.
II. Procedural Information (continued)

**Access Site**

*Variable Names: ACCESS_ARM, ACCESS_LEG*

Indicate if the access site was in the arm (radial or brachial) or the leg (femoral artery).

**Interpretation:**
Report the site through which access to the ascending aorta was successfully achieved. If access through one site was attempted but failed, do not report. If access was achieved through both sites, check both.

**Dose Area Product (DAP)**

*Variable Name: DAP*

Provide the Dose Area Product (DAP) recorded for this procedure in Gy*cm².

**Reporting Note:**
If the DAP is >999 Gy*cm², report as “999”. Please note, this represents an unusual value and may be subject to additional validation review. The unit of measurement should be checked carefully for any values documented as > 999.
III. Vessels Diseased and Lesion Specific Information

Vessels Diseased

Variable Names: LMT, PROX_LAD, MID_LAD, RCA, LCX

For each diseased vessel, check the appropriate box to indicate the percent diameter stenosis. Include all vessels diseased, even branches.

Interpretation: If the diseased segment of the native vessel is bypassed by an open artery or vein graft, do not code as diseased. This vessel is revascularized.

Use the ranges listed below when the medical record describes the percent stenosis in the following ways:

- MILD = plaques to < 50%
- MODERATE = 50-69%
- SEVERE = > 70%

If a vessel or branch is described as having “mild” stenosis then the vessel would not be coded as diseased.

If the medical record reports the range “40-50% stenosis,” then do not code as diseased. If the medical record reports the range “60-70% stenosis,” then code 50-69%.

The Ramus Intermediate can be coded as either the marginal or the diagonal depending on the origin of the vessel.

Always take the highest stenosis reported for a vessel. If the medical record reports the proximal RCA with a 70% lesion and the distal RCA with a 50% you should code the RCA as 70-100%, since the proximal RCA has a 70% lesion.

If the medical record only has documentation that states the LAD was stenosed, then code the mid LAD and not the proximal LAD.

Disease of a major diagonal should be reported with mid/distal LAD, not with the proximal LAD.

FFR findings of ≤0.80 may be used to report disease of >70%.
III. Vessels Diseased and Lesion Specific Information (continued)

Previous LIMA Use

Variable Name: LIMA_USE

Choose one:
1. LIMA used as a graft and remains patent to native coronary artery
2. LIMA used as a graft but is no longer functional
3. Never used – includes no previous CABG
4. Unknown – the existence or condition of the LIMA graft is unknown

Interpretation:
The graft would be considered “no longer functional” if there is angiographic stenosis of 70% or more or there is evidence of significant flow restriction documented by FFR or by stress test (with echo or nuclear to localize the ischemia).

Coronary Dominance

Variable Name: COR_DOM

Indicate the coronary artery dominance using the following codes:
1. Left
2. Right
3. Co-Dominant

MLA Measurement Type

Variable Name: MLA_TYPE

If minimal luminal area (MLA) is reported in the lesion specific grid, indicate if the measurements were obtained from IVUS or OCT evaluation.
1. IVUS
2. OCT

If no MLA is reported, leave this field blank or enter 0.

Flow Measurement Type

Variable Name: FLW_TYPE

If fractional flow reserve ratio (FFR) or instantaneous wave-free ratio (iFR) is reported in the lesion specific grid, indicate if the measurements were obtained from FFR or iFR evaluation.
1. FFR
2. iFR

If no FFR/iFR is reported, leave this field blank or enter 0. If both FFR and iFR were used, check FFR and report the values from FFR.
### III. Vessels Diseased and Lesion Specific Information (continued)

#### Lesion Specific Information
Complete one line for every lesion for which **PCI was attempted** (even if pre-stenosis is < 50%), and one line for each non-attempted **lesion with diameter stenosis of 50% or more or proven significant by IVUS/FFR/iFR if angiographic stenosis is < 50%**. If there are more than seven lesions, report the seven most significant.

See also “PCIRS Reportable Cases” under “PCIRS Data Reporting Policies” at the beginning of this document for additional guidance on when to report a PCI.

<table>
<thead>
<tr>
<th>Location</th>
<th>Variable Names: LES_LOC1 – LES_LOC7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter the code indicating the location of the lesion, as shown in Attachment D.</td>
<td></td>
</tr>
</tbody>
</table>

**Interpretation:** For lesions in a “sequential” graft going to two of the major coronary systems, complete a separate line for each coronary artery jeopardized (*LAD, LCX, RCA*).

In the event of a long lesion that spans across two locations as defined in Attachment D, report this lesion as the more proximal location.

For the ramus use ‘15’ for an LAD derived ramus and ‘20’ for an LCX derived ramus.

<table>
<thead>
<tr>
<th>Bypassed (A or V)</th>
<th>Variable Names: BYPASS_1 – BYPASS_7</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the lesion has been bypassed by a vein graft, enter V.</td>
<td></td>
</tr>
<tr>
<td>If the lesion has been bypassed by an artery graft, enter A.</td>
<td></td>
</tr>
<tr>
<td>If the lesion was not bypassed leave blank.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bypass Stenosis</th>
<th>Variable Names: BPSTEN1 – BPSTEN7</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the lesion has a vein or artery graft, use the following code to report the level of stenosis found in the graft:</td>
<td></td>
</tr>
<tr>
<td>1  &gt; 70%</td>
<td></td>
</tr>
<tr>
<td>2  &lt; 70%</td>
<td></td>
</tr>
<tr>
<td>3  Unknown</td>
<td></td>
</tr>
</tbody>
</table>
III. Vessels Diseased and Lesion Specific Information
(continued)

Lesion-Specific Information (continued)

| % Pre-Op | Variable Names: PRESTEN1 – PRESTEN7 |
|% Pre-Op Stenosis | Enter the pre-PCI percent diameter reduction. If the Pre-Stenosis for the lesion is given as a range, report the mid-point of the range. |
| | Note: Report here only the angiographic findings. Findings by IVUS are not acceptable. |
| | If the % Pre-Stenosis was 0%, and the lesion is intervened upon and therefore reported, record it as 1% to indicate that there was no stenosis noted before the intervention. |

| Minimal Luminal Area (MLA) | Variable Names: MLA1 – MLA7 |
|Report the MLA in mm² for this lesion if determined by IVUS or OCT. |

| FFR/iFR | Variable Names: FFR1 – FFR7 |
|Indicate the fractional flow reserve ratio (FFR) or the instantaneous wave-free ratio (iFR) determined prior to intervention, if available. |
|If both iFR and FFR were performed, report the FFR value. |
|If FFR and iFR were not done, leave blank. |

| Previous PCI | Variable Names: PREVPCI1- PREVPCI7 |
|Use the following codes to indicate if the lesion is restenotic following a previously successful PCI: |
|0 No Previous PCI |
|1 No Restenosis |
|2 Restenosis, No Stent Previously Placed in the Vessel |
|3 Restenosis, Stent Previously Placed in the Vessel |
|Interpretation: For the purposes of this data element, report the presence of thrombus as restenosis. |

| Device 1 and Device 2 | Variable Names: DEVICE_1-DEVICE_7, DEVSPEC1-DEVSPEC7, SECOND_1-SECOND_7 |
|From the PCI Devices list in Attachment E, indicate the device used. |
|If the device used is not found in Attachment E, use Device Code “99 – Other” and specify the device used. |
|If two different types of devices were used on the same lesion, complete Device 2 as well. |
|Interpretation: In the event of a failed PCI attempt, when the guidewire is advanced but no device is used, report the Device Code “98 – Attempted PCI, No Device Used.” |
III. Vessels Diseased and Lesion Specific Information
(continued)

Lesion-Specific Information (continued)

Device 1 and Device 2 (cont’d.)

If a Balloon and a Stent are both used, it is at the discretion of the physician if the Balloon is coded as the Device 1 or not coded at all. For purposes of analysis/interpretation, the stent will be considered the primary or most important intervention.

Report “drug eluting balloon” with device code 99- Other and specify “DEB.”

Report Coil Embolization with code “99- Other” when done in the same setting as PCI. If no other device is used, then it is not a PCIRS reportable case.

Intra-coronary nitroglycerin is not a reportable device. A case consisting of only intra-coronary nitroglycerin, with no reportable devices used or attempted, is not reportable.

The most common example of “12-Mechanical Thrombus Extraction” is “Angiojet.” Use “13-Aspiration Thrombectomy” for devices that extract the thrombus without first breaking them up, such as Pronto, Export, Fetch.

Stent 1 and Stent 2

Variable Names: STENT1- STENT7, STENTB_1-STENTB_7, STNTSPC1-STNTSPC7

From the Stent Code list in Attachment E, indicate the type of stent used. If the stent used is not found in Attachment E, use Stent Code “99 – Other” and specify the type of stent used.

Interpretation:
If two different kinds of stents were used on the same lesion, complete Stent 2 as well. If multiple stents of the same type were used in the lesion, then only report Stent 1.

When two lesions are treated with a single stent, it should be reported as one lesion on a single row in the lesion specific grid.
### III. Vessels Diseased and Lesion Specific Information (continued)

Lesion-Specific Information (continued)

<table>
<thead>
<tr>
<th>Lesion Description</th>
<th>Variable Names: LESDESA1- LESDESA7, LESDESB1-LESDESB7, LESDESC1- LESDESC7</th>
</tr>
</thead>
</table>

Report all that apply (up to 3) for attempted and non-attempted lesions.

1. Small vessel (<2.5 mm diameter)
2. Long lesions (stenting ≥ 33 mm)
3. Bifurcation stenting
4. Heavily calcified and/or unyielding lesion
5. Tortuous and/or angled vessel obstructing stent delivery
6. Complex lesion – details not documented
7. Chronic Total Occlusion (CTO)
8. Dissection without prior significant disease
9. Thrombus presence
10. None of the above apply

**Interpretation:**

2. Long lesion should only be reported when the actual length of the lesion is documented to be ≥ 33 mm. A note of “long lesion” should not be used as evidence for reporting this element.

3. Bifurcation stenting refers to bifurcation lesions where both portions are stented. This should not be reported when there is a bifurcation lesion that is not stented in both portions.

4. Heavily calcified and/or unyielding lesion may be reported when a rotational, orbital, or laser atherectomy device is used, even if there is no specific notation of calcification.

6. Complex lesion, details not documented – should only be reported when there is a note of “complex lesion” and the documentation does not support coding any of the other lesion description codes.

7. Chronic Total Occlusion (CTO) is defined as: a vessel with 100% pre-procedure stenosis presumed to be 100% occluded for at least three months previous to this procedure. Note: This description should be reported if a lesion is described as a CTO even if there is no specific documentation with regard to timeframe of three months.

8. Dissection without prior significant disease refers to intra-PCI dissections caused by the procedure which necessitate treatment. The pre-PCI stenosis for these lesions should be reported as the stenosis prior to the dissection occurring.
III. Vessels Diseased and Lesion Specific Information  
(continued)

Lesion-Specific Information (continued)

<table>
<thead>
<tr>
<th>% Post-Op Stenosis</th>
<th>Variable Names: POSTSTEN1- POSTSTEN7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If a PCI was attempted on this lesion, enter the percent diameter of the stenosis immediately following the PCI.</td>
</tr>
<tr>
<td></td>
<td>Measurement with calipers is recommended.</td>
</tr>
<tr>
<td></td>
<td>If PCI was not attempted, leave post-op stenosis blank.</td>
</tr>
<tr>
<td></td>
<td>If the Medical Record says % Post-Stenosis was 0%, record it as 1% to indicate that it was actually a successful PCI and not left blank by mistake.</td>
</tr>
</tbody>
</table>
IV. Cardiac Presentation

Complete this section for all patients.

Cardiac Presentation

Variable Name: CAD_PRSNT

Indicate the type of angina present prior to this procedure.

1. No Symptoms, No Angina
2. Symptoms Unlikely to be Ischemia
   - Pain, pressure or discomfort in the chest, neck or arms not clearly exertional or not otherwise consistent with pain or discomfort of myocardial ischemic origin. This includes patients with non-cardiac pain (e.g., pulmonary embolism, musculoskeletal, or esophageal discomfort), or cardiac pain not caused by myocardial ischemia (e.g. acute pericarditis).
3. Stable Angina
   - Angina without a change in frequency or pattern for the six weeks prior to this surgical intervention. Angina is controlled by rest and/or oral or transcutaneous medications.
4. Unstable Angina
   - There are three principal presentations of unstable angina:
     a. Rest angina (occurring at rest and prolonged usually >20 minutes);
     b. New-onset angina (within the past 2 months, of at least CCS Class III severity); or
     c. Increasing angina (previously diagnosed angina that has become distinctly more frequent, longer in duration, or increased by 1 or more CCS Society class to at least CCS III severity).
5. Non-ST Elevation MI (Non-STEMI)
   - Non-ST elevation myocardial infarction as documented in the medical record. Non-STEMIs are characterized by the presence of both criteria:
     a. Cardiac biomarkers (creatine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital's laboratory parameters with a clinical presentation which is consistent or suggestive of ischemia. ECG changes and/or ischemic symptoms may or may not be present.
     b. Absence of ECG changes diagnostic of a STEMI (see STEMI).
IV. Cardiac Presentation (continued)

Cardiac Presentation (continued)

6 ST-Elevation MI (STEMI) or equivalent.
The patient presented with a ST elevation myocardial infarction (STEMI) or its equivalent as documented in the medical record. STEMI is characterized by the presence of both criteria:

a. ECG evidence of STEMI: New or presumed new ST-segment elevation or new left bundle branch block not documented to be resolved within 20 minutes. ST-segment elevation is defined by new or presumed new sustained ST-segment elevation at the J-point in two contiguous ECG leads with the cut-off points: $\geq 0.2 \text{ mV}$ in men or $\geq 0.15 \text{ mV}$ in women in leads V2-V3 and/or $\geq 0.1 \text{ mV}$ in other leads and lasting greater than or equal to 20 minutes. If no exact ST-elevation measurement is recorded in the medical chart, physician’s written documentation of ST-elevation or Q waves is acceptable. If only one ECG is performed, then the assumption that the ST elevation persisted at least the required 20 minutes is acceptable. Left bundle branch block (LBBB) refers to new or presumed new LBBB on the initial ECG.

b. Cardiac biomarkers (creatine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital’s laboratory parameters and a clinical presentation which is consistent or suggestive of ischemia.

Note: For purposes of the Registry, ST elevation in the posterior chest leads (V7 through V9), or ST depression that is maximal in V1-3, without ST-segment elevation in other leads, demonstrating posterobasal myocardial infarction, is considered a STEMI equivalent.

Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission. Note version 2.73 alignment. Data element not aligned with v2.9.

Clarification:
Report Cardiac Presentation based on the worst status present within 7 days prior to this PCI or since the most recent PCI, whichever time period is shorter.

Atypical symptoms (e.g. shortness of breath, upper abdominal pain, left arm pain) may be considered in identifying the Cardiac Presentation when they are documented as an anginal equivalent or evidence of myocardial ischemia. If these symptoms are not documented as an anginal equivalent, then report response category 2 – Symptoms Unlikely to be Ischemia.
IV. Cardiac Presentation (continued)

Anginal Classification Within 2 weeks

Variable Name:  CCS_CLAS

Indicate the patient’s anginal classification or symptom status within the past 2 weeks. The anginal classification or symptom status is classified as the highest grade of angina or chest pain by the Canadian Cardiovascular Angina Classification System (CCA).

1 CCA I Ordinary physical activity does not cause angina; for example walking or climbing stairs, angina occurs with strenuous or rapid or prolonged exertion at work or recreation.
2 CCA II Slight limitation of ordinary activity; for example, angina occurs walking or stair climbing after meals, in cold, in wind, under emotional stress or only during the few hours after awakening, walking more than two blocks on the level or climbing more than one flight of ordinary stairs at a normal pace and in normal conditions.
3 CCA III Marked limitation of ordinary activity; for example, angina occurs walking one or two blocks on the level or climbing one flight of stairs in normal conditions and at a normal pace.
4 CCA IV Inability to carry on any physical activity without discomfort – angina syndrome may be present at rest.
8 No Symptoms, No Angina – The patient has no symptoms, no angina.

Clarification:
Report this data element reflective of the patient’s CCS Class within two weeks or since the most recent PCI, whichever time period is shorter.

Atypical symptoms (e.g. shortness of breath, upper abdominal pain, left arm pain) may be considered in identifying the CCS class when they are documented as an anginal equivalent or evidence of myocardial ischemia. If these symptoms are not documented as an anginal equivalent, then report response category 8 – No Symptoms, No Angina.
IV. Cardiac Presentation (continued)

NOTE: Data elements for MI patients
The remaining items in this section are only reported for patients with an MI < 24 prior to the PCI.

Mode of Arrival to First Facility
Variable Name: MODE_TRANS

Report the transport method by which the patient arrived at the first acute care facility, using the following codes:

1  Self/Family
2  Emergency Medical Services (EMS)
3  Other

EMS includes any ambulance or helicopter transport.

Note: This is information concerning mode of arrival at the first acute care facility for this episode of care. For patients transferred to your hospital, report how they arrived at the referring institution.

Thrombolytics
Variable Names: LYTICS

Check the appropriate box to indicate if, and at what time interval, thrombolytics were administered. The time interval represents the number of hours between initial thrombolytic administration and start of PCI.

1  < 3 hours
2  3 – 24 hours
3  > 24 hours – 7 days

Clarification:
Report only use of thrombolytics to treat an MI and report only for patients with an MI within 24 hours prior to PCI.

“Half-dose” lytics as part of a pharmaco-invasive strategy should be reported for this data element.
IV. Cardiac Presentation (continued)

Onset of Ischemic Symptoms

**Variable Name:** CHESTPDATE

Report the date and time of the onset of chest pain or surrogate ischemic symptoms. This may be reported by the patient as pain, pressure, burning, heaviness or discomfort in the upper abdomen, shoulder, arm, jaw or upper back. This may also be accompanied by nausea and/or diaphoresis.

**Note:**
The time reported here should be the time of the onset of symptoms that brought the patient to the hospital or caused the patient to seek care. If the symptoms have stopped before the start of the procedure, you can still report the date and time that they began.

If the exact symptom onset time is not specified in the medical record, it may be recorded as 0700 for morning, 1200 for lunchtime, 1500 for afternoon, 1800 for dinnertime, 2200 for evening and 0300 if awakened from sleep in the nighttime.

First Medical Contact

**Variable Name:** MED_CONTACT

Indicate the date and time when the patient was first evaluated by either emergency medical services (EMS) or another healthcare professional prior to arrival at your facility.

Do not report if Mode of Transport to the First Facility was Self/Family.

For transfer patients, this is the time of first medical contact prior to arrival at the first facility.

Arrival at Transferring Hospital

**Variable Name:** TRANARRDATE

Only for patients that are transferred from another acute care facility (with the pre-intervention risk factor MI < 24 hours), enter the date and time of arrival at the transferring institution.

When an MI develops in the transferring hospital, code the date and time documented by the nurses’ notes as the start of chest pain or an equivalent cardiac symptom (jaw pain, shortness of breath, etc).
IV. Cardiac Presentation (continued)

**Arrival at PCI Hospital**

*Variable Name: PCIARRDATE*

Enter the date and time the patient arrives in the PCI hospital.

When an MI develops in the PCI hospital, code the date and time documented by the nurses' notes as the start of chest pain or an equivalent cardiac symptom (jaw pain, shortness of breath, etc).

**Onset Time, Estimated**

*Variable Name: EST_ONSET*

Indicate if the symptom onset time was estimated.

**New ST ↓ or T ↓**

*Variable Name: STORTDEP*

New ischemic changes on EKG appearing as ST depression, T-Wave inversion, or both.

**TIMI < II**

*Variable Name: TIMILTII*

Evidence of TIMI flow \( \leq \II \) with either total vessel occlusion or a high-grade lesion.

**Ongoing Ischemia at Time of Procedure**

*Variable Name: ONGOINGISCH*

Check this box if the patient is experiencing chest pain and acute ST or T-Wave changes at the start of the PCI.
IV. Cardiac Presentation (continued)

**Killip Class 2 or 3**

*Variable Name: KILLIP23*

Indicate severe heart failure in the acute MI patient as evidenced by any of the following:

- Documentation of Killip Class 2 or 3
- NYHA functional classification IV- symptoms at rest
- Symptoms are dyspnea and there may be note of orthopnea and paroxysmal nocturnal dyspnea (PND).
  
  NOTE: If the patient requires oxygen to control dyspnea and then the chart notes “no longer short of breath or no longer dyspneic,” this should still be considered evidence of dyspnea.

- Physical examination/ clinical evidence of fluid overload, and documentation of rales, crackles or pulmonary edema.
  
  NOTE: A description of the rales as “mild, minimal or bibasilar” or rales which “clear with deep breathing” is not sufficient. Notation of jugular venous distension (JVD), hepatic congestion, ascites and/or peripheral edema, chart notes of “grossly edematous or fluid overloaded” are not sufficient in the absence of clear statement about the pulmonary findings. In this case, it is reasonable to look elsewhere in the chart for evidence of pulmonary fluid overload (e.g. the anesthesiologist notes on intubation that there is “pink, frothy sputum” or notation of “not moving any air” or even an x-ray finding).
V. Pre-Intervention Risk Factors

PCI Status

Variable Name: PCI_STAT
Check the most appropriate box for the reason the PCI is being performed.

1 STEMI, Immediate – Check if patient is being treated for STEMI (or STEMI equivalent) within 12 hours of symptom onset.

2 STEMI, >12 hrs, Symptomatic – Check if patient is being treated for STEMI (or STEMI equivalent) more than 12 hours from symptom onset and at the time of the procedure has symptoms of severe heart failure, persistent ischemic symptoms, or hemodynamic or electrical instability.

3 STEMI, >12 hrs, Asymptomatic – Check if patient is being treated for STEMI (or STEMI equivalent) more than 12 hours from symptom onset and is asymptomatic; without hemodynamic instability, electrical instability, persistent or recurrent ischemia, and symptoms of heart failure.

4 STEMI, successful lytics – Check if patient is stable after presumed successful treatment with full-dose thrombolitics.

5 STEMI, failed lytics – Check if patient is being treated after failed thrombolytic therapy.

6 NSTEMI, high risk or Unstable Angina, high risk – Check for patients with unstable angina or NSTEMI who have high risk features for short-term risk of death or nonfatal MI. High risk features includes at least one of the following:
   o History – Accelerating tempo of ischemic symptoms in preceding 48 hrs
   o Character of Pain – ongoing prolonged (longer than 20 minutes) rest pain
   o Clinical Findings:
     ▪ Pulmonary edema, most likely due to ischemia;
     ▪ New or worsening mitral regurgitation murmur;
     ▪ S3 or new/worsening rales;
     ▪ Hypotension, bradycardia, tachycardia;
     ▪ Age > 75 years
   o ECG:
     ▪ Angina at rest with transient ST-segment changes greater than 0.5 mm;
     ▪ Bundle-branch block, new or presumed new;
     ▪ Sustained ventricular tachycardia
   o Cardiac markers – elevated cardiac troponin T, troponin I, or creatinine kinase-MB (e.g., troponin T or I greater than 0.1 ng per mL)

7 None of the above – Check here if the patient fits none of the above categories (i.e. no STEMI, no high risk NSTEMI, no high risk Unstable Angina).
V. Pre-Intervention Risk Factors (continued)

PCI Status (Cont.)

Clarification:
Report PCI Status based on the reason for performing the PCI that is being reported on the current form. That is, “why is this PCI being performed?” If this PCI is the second part of a staged procedure report 7 – none of the above. Staged cases will be identified using the two PCIRS questions on staging.

Atypical symptoms (e.g. shortness of breath, upper abdominal pain, left arm pain) may be considered in identifying the PCI Status when they are documented as an anginal equivalent or evidence of myocardial ischemia.

Height

Variable Name: HEIGHT

Enter the patient's height in centimeters (cm).

Weight

Variable Name: WEIGHT

Enter the weight of the patient, in kilograms (kg), closest to but before the procedure.

Stress Test Findings

Variable Name: STRS_RES

Use the codes below to indicate the stress test results if a stress test was performed in the last 6 months.

1. Low Risk – (<1% annual risk of death or MI)
   Select if any of the following stress test findings are documented:
   - Low risk treadmill score (score ≥5) or no new ST segment changes or exercise induced chest pain symptoms; when achieving maximal levels of exercise.
   - Normal or small myocardial perfusion defect at rest or with stress encumbering <5% of the myocardium
   - Normal stress or no change of limited resting wall motion abnormalities during stress.
V. Pre-Intervention Risk Factors (continued)

Stress Test Findings (cont.)

2 Intermediate Risk (1% to 3% annual death or MI)
Select if any of the following stress test findings are documented:
- Mild/moderate resting LV dysfunction (LVEF 35% to 49%) not readily explained by noncoronary cause
- Resting perfusion abnormalities in 5% to 9.9% of the myocardium in patients without a history or prior evidence of MI
- ≥ 1mm of ST-segment depression occurring with exertional symptoms.
- Stress-induced perfusion abnormalities encumbering 5% to 9.9% of the myocardium or stress segmental scores (in multiple segments) indicating 1 vascular territory with abnormalities but without LV dilation
- Small wall motion abnormality involving 1 – 2 segments and only 1 coronary bed

3 High Risk (>3% annual death or MI)
Select if any of the following stress test findings are documented:
- Severe resting LV dysfunction (LVEF <35%) not readily explained by noncoronary cause
- Resting perfusion abnormalities ≥10% of the myocardium in patients without prior history or evidence of MI
- Stress ECG findings including ≥2mm of ST-segment depression at low workload or persisting into recovery, exercise-induced ST-segment elevation, or exercise induced VT/VF.
- Severe stress induced LV dysfunction (peak exercise induced LVEF <45% or drop in LVEF with stress ≥ 10%).
- Stress induced perfusion abnormalities encumbering ≥10% myocardium or stress segmental scores indicating multiple vascular territories with abnormalities.
- Stress induced LV dilation
- Inducible wall motion abnormality (involving >2 segments or 2 coronary beds)
  - Wall motion abnormality developing at low dose of dobutamine (≤10 mg/kg/min) or at a low heart rate (<120 beats / min).

4 Positive, Risk Unavailable
- The study was “positive” but the risk or extent of ischemia was not documented.

5 Indeterminate
- The results of the study were uninterpretable. They cannot be considered positive or negative.
V. Pre-Intervention Risk Factors (continued)

Stress Test Findings (cont.)

6 Unavailable
   • A study was performed but the results of the study are not available
9 Not Done/ Unknown
   • No stress test/imaging study was performed within the past 6 months
     or it is not known if a stress test/imaging study was performed in the
     past 6 months.

Clarification:
“Normal” or “Negative” stress test should be reported under 1 – Low risk.
If findings were in more than one risk level, select the highest level of risk indicated.

Note: Inclusion of stress test reports in the medical record is encouraged to allow for
accurate and complete reporting of these data elements.

Coronary CTA Results

Variable Name: CT_RES

Use the codes below to indicate the results of a Coronary Computed Tomography
Angiography (CTA) exam if one was performed.

1 Low Risk
   • No coronary stenosis > 50%
2 Intermediate Risk
   • One vessel CAD with ≥70 stenosis or moderate CAD stenosis (50-
     69% in ≥ 2 coronary arteries
3 High Risk
   • Multi-vessel obstructive CAD (≥ 70 stenosis) or left main stenosis
4 Positive, Risk Unavailable
   • CT exam is described as positive but detailed results to allow for
categorization of risk are not provided.
5 Indeterminate
   • The results of the study were uninterpretable. They cannot be
considered positive or negative.
6 Unavailable
   • A study was performed but the results of the study are not
available.
9 Not Done/ Unknown
   • No CTA Exam was performed or it is unknown if a CTA was
performed.

Clarification:
“Normal” or “Negative” CTA exam should be reported under 1 – Low risk.
V. Pre-Intervention Risk Factors (continued)

**Agatston Coronary Calcium Score**

*Variable Name: CA_SCORE*

Report the Agatston Coronary Calcium Score if available from the 6 months prior to PCI.

For values greater than 999, report 999.

**Anti-Anginal Medication Within 2 Weeks**

*Variable names: MED_BB, MED_CA, MED_NIT, MED_RAN, MED_OTH*

For each of the following agents used to treat anginal symptoms, provide the appropriate code to describe the patient's use in the past two weeks.

Medications:
- Beta-Blockers
- Calcium Channel Blockers
- Long Acting Nitrates
- Ranolazine
- Other

Responses:
- 0 (or Blank) No Use, Intolerance or Strong Contraindication documented.
- 1 Used
- 2 Not Used – Strong Contraindication / Patient Intolerance;

**Clarification:**

Do not report “1-Used” if the patient was only given sublingual, IV, or short acting formula of the medications.

Do not report “1-Used” if the patient has been prescribed the medication but is known to be not taking it.

Report “1-Used” if the patient was started on an oral form of the medication after admission but prior to this procedure.

Report “1-Used” if this medication was prescribed for this patient, but you are unsure it has been prescribed specifically to treat anginal symptoms.

Report “2- Not Used, Strong Contraindication / Patient Intolerance” if the patient has previously been prescribed this medication but is no longer taking it due to documented inability to tolerate the drug or if there is documentation in the medical record that the patient is not on the medication due to a medical contraindication.

Patient preference does not constitute “Strong Contraindication or Patient Intolerance.”
V. Pre-Intervention Risk Factors (continued)

Ejection Fraction and Measure

Variable Names: EJEC_FRA, MEASURE

Record the ejection fraction taken closest to (but before) the intervention. If a pre-intervention ejection fraction is not available, it is acceptable to report the ejection fraction as measured after intervention but within 1 day.

If an ejection fraction is unavailable, enter “0” and enter “9 – Unknown” for the measure.

Note:
Intraoperative direct observation of the heart is NOT an adequate basis for a visual estimate of the ejection fraction.

Indicate how the Ejection Fraction was measured using one of the following:

1  LV Angiogram
2  Echocardiogram
3  Radionuclide Studies
4  TEE, including intra-operative
5  Other
6  Unknown

Interpretation:
An ejection fraction that is described in the medical record as “Normal” should be considered 55%.

If EF is given as a range, enter the midpoint of the range.

An EF measured up to one year prior to the PCI may be used if there is not a more recent value and if there was no change in clinical condition that would indicate the value was likely to change in that time period.

Any cases with a missing or unusual ejection fraction will be sent back to the centers during quarterly and/or annual data validation to verify accuracy of this data element.

Creatinine

Variable Name: CREATININE

Enter the patient's creatinine level (mg/dL) closest to, but prior to the intervention. If no pre-PCI creatinine value is available, enter 00.0.

Interpretation:
A creatinine value from up to one month prior to arrival may be reported here.
V. Pre-Intervention Risk Factors (continued)

Aortic Valve Area

Variable Name: AVAREA

Enter the Aortic Valve Area (AVA) in cm² if known.

Interpretation:
Report the most recent pre-PCI AVA available. This may be taken from any point in time prior to PCI but should be more recent than any valve intervention.

A post-PCI echo may be used to report AVA if no pre-PCI result is available. Any post-PCI value that is after a Post-PCI valve intervention should not be reported.

If the documentation indicates “normal AVA,” with no value documented, it is acceptable to report 3.0 cm².

If the documentation includes only a narrative description (e.g. mild, moderate, severe stenosis), there is no corresponding AVA value that can be assumed to correspond to these findings. In the presence of aortic valve stenosis, there is an expectation that a numeric value for the AVA should be present in the medical record.

If an echo report has more than one value reported for AVA (e.g. AO Max A and AO EFF A, Vmax method and VTI method, LV SV method and LVOT SV method and LVOT SR method) it is appropriate to report the smallest aortic valve area documented.

This data may not be available for all patients.

0. None

Variable Name: NORISK

None of the pre-intervention risk factors listed below are present.

1-3. Previous PCIs

Variable Names: PREV_PR1, PREV_PR2, PREV_PR3

If the patient had one or more previous PCI, check the appropriate box to indicate the number of previous PCIs.

Include any interventions that occurred prior to this one during the current admission. If there was a previous procedure this admission, please be sure that the date of the most recent PCI is indicated for “Previous PCI This Admission” on the form.
V. Pre-Intervention Risk Factors (continued)

4-7. Previous MI (most recent)
Variable Names: PREMILT6, PREMI611, PRMI1223, PREMIDAY

If the patient had one or more myocardial infarctions before PCI, report the length of time since the most recent MI. The timing should be from the onset of symptoms that prompted the patient to seek medical care to the time of first interventional device. The diagnosis of Acute Coronary Syndrome (ACS) in the medical record is not sufficient to code risk factors 4 – 7. There must be documentation of a myocardial infarction.

If less than 6 hours, check box 4.
If >6 - <12 hours, check box 5.
If >12 - <24 hours, check box 6.
If 24 hours or more, enter the number of days in the space provided next to 7.
If 21 days or more, enter 21.

39. Neurological Event
Variable Name: CVD_EVENT

Use the following to indicate if the patient has a history of a neurological event:
   1  Stroke
   2  TIA, without history of stroke.

Stroke is an acute episode of focal or global neurological dysfunction caused by brain, spinal cord, or retinal vascular injury as a result of hemorrhage or infarction, where the neurological dysfunction lasts for greater than 24 hours.

TIA is defined as a transient episode of focal neurological dysfunction caused by brain, spinal cord, or retinal ischemia, without acute infarction, where the neurological dysfunction resolves within 24 hours.

If no history of stroke or TIA, enter 0 or leave blank.

40. Arterial Imaging Test
Variable Name: CVD_IMG

Use the codes below to indicate if there was noninvasive or invasive arterial imaging test demonstrating >=50% stenosis of any of the major extracranial or intracranial vessels to the brain.
   1  50-79% occlusion
   2  >79% occlusion

If no findings in this range, or no testing performed, enter 0 or leave blank.
V. Pre-Intervention Risk Factors (continued)

41. Cervical or Cerebrovascular Procedure

*Variable Name: CVD_PROC*

Check the box to indicate that the patient had previous cervical or cerebral artery surgery or percutaneous intervention.

**Note:**
It is acceptable to report cerebrovascular aneurysm clipping or coiling for this risk factor.

44. Cardiac Arrest

*Variable Name: ARREST*

Indicate if the patient had an episode of cardiac arrest within 24 hours prior to the start of the PCI.

**Interpretation:**
Cardiac arrest includes pulseless clinical scenarios that can be bradycardic arrests or tachycardic arrests requiring cardiopulmonary resuscitation (requiring two or more chest compressions, or open chest massage) and/or requiring emergency defibrillation.

Reportable events require a clinically significant loss of consciousness and blood pressure such that there was a life-threatening condition and immediate therapy was required.
V. Pre-Intervention Risk Factors (continued)

38. Anoxic Brain Injury Criteria

Variable Name: NEUROST

Indicate if the patient met all of the following criteria prior to PCI:

1. AMI – PCI is done for Acute Myocardial Infarction;

2. CARDIAC ARREST- Documented cardiac arrest has occurred as part of initial presentation for the AMI and before the patient is brought to the cardiac catheterization laboratory (typically out-of-hospital cardiac arrest);

3. COMA – The patient had normal consciousness before the cardiac arrest, but becomes comatose, broadly defined as the failure to exhibit adequate responsiveness to external stimuli with the understanding that early after cardiac arrest this can be due to multiple factors and not just prolonged hypoxia. There is no need to “prove” anoxic/hypoxic encephalopathy at this time and indeed it cannot be “proved.”

Additional documentation may be requested for all cases reported with this pre-PCI condition.

42. Cardiogenic Shock

Variable Name: SHK_COND

Indicate if, at the start of the procedure, the patient was in cardiogenic shock as defined below.

Cardiogenic Shock is defined as an episode of systolic blood pressure <90 mmHg and/or Cardiac Index <2.2 L/min/m² determined to be secondary to cardiac dysfunction and the requirement for parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, VADs) to maintain blood pressure and cardiac index above those specified levels.

Please see clarification presented under “Refractory Cardiogenic Shock.”
V. Pre-Intervention Risk Factors (continued)

43. Refractory Cardiogenic Shock

Variable Name: SHK_REFR

Refractory Shock is defined as an episode of systolic blood pressure <80 mm Hg and/or Cardiac Index <2.0 L/min/m² determined to be secondary to cardiac dysfunction despite the use of parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, VADs).


Clarification:
Transient episodes of hypotension reversed with IV fluids or atropine do not constitute Cardiogenic Shock.

When coding Cardiogenic Shock or Refractory Cardiogenic Shock, be careful of timing. It needs to be just prior to the start of the PCI. All elements of the definition must be clearly documented to have occurred prior to the guide-wire leaving the catheter.

Cardiogenic Shock cannot be coded with Refractory Shock.

If the patient has an IABP, the augmented or non-augmented systolic blood pressure < 80 mmHg can be used as supporting documentation to code Refractory Shock.

If the patient is Ventricular Assist Device (VAD) dependent then Refractory Shock can be coded. For these purposes ECMO is treated like a VAD. Use of Impella is treated like a VAD when there is evidence prior to insertion that the hemodynamic criteria above are met.

Ongoing CPR warrants the coding of Refractory Cardiogenic Shock.

Cases with Refractory Cardiogenic Shock will be excluded from analysis.
V. Pre-Intervention Risk Factors (continued)

10. Peripheral Vascular Disease

Variable Name: PERIPH

Angiographic demonstration of at least 50% narrowing in a major aortoiliac or femoral/popliteal vessel, previous surgery for such disease, absent femoral or pedal pulses, or the inability to insert a catheter or intra-aortic balloon due to iliac aneurysm or obstruction of the aortoiliac or femoral arteries. Ankle-Brachial Index < 0.9 is also acceptable documentation.

Examples:

<table>
<thead>
<tr>
<th>Peripheral Vascular Disease</th>
<th>Code</th>
<th>Do Not Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tortuosity of the vessel alone</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2. Tortuosity of the vessel with an inability to insert a Catheter</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3. Abdominal aortic aneurysm (AAA)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4. Aneurysm in the ascending or descending aorta</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5. Absence of femoral pulse on either the right or the left</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6. Diminished femoral pulse on either right or left or both</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7. Claudication</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>8. A negative popliteal pulse alone (1+1- or 1-1+)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>9. Palpable dorsalis pedis and posterior tibial pulses</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>10. If pulses are non-palpable, but are dopplerable</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>11. Inability to insert a catheter or IABP in femoral Arteries</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>12. Amputated toes, necrotic toes, gangrene of the foot in the absence of other acceptable criteria</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>13. Renal artery with significant stenosis</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>14. Subclavian artery with significant stenosis</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>15. Iliac artery aneurysm</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>16. Infra renal aortic dissection</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>17. &quot;Moderate&quot; subclavian artery stenosis with no % documented</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
V. Pre-Intervention Risk Factors (continued)

18. Heart Failure, Current

Variable Name: CHF_CURRENT

Within 2 weeks prior to the procedure, the patient has a clinical diagnosis of heart failure and symptoms requiring treatment for heart failure.

Note: Physician diagnosis of heart failure may be based on one of the following:
- Paroxysmal nocturnal dyspnea (PND)
- Dyspnea on exertion (DOE) due to heart failure
- Chest X-Ray showing pulmonary congestion

Documentation must include the presence of a diagnosis of heart failure, evidence of symptoms, and treatment for heart failure.

Please see clarification under Heart Failure, Past.

19. Heart Failure, Past

Variable Name: CHF_PAST

Between 2 weeks and 6 months prior to the procedure, the patient has a clinical diagnosis/past medical history of heart failure and ongoing treatment for heart failure.

Note: Physician diagnosis of heart failure may be based on one of the following:
- Paroxysmal nocturnal dyspnea (PND)
- Dyspnea on exertion (DOE) due to heart failure
- Chest X-Ray showing pulmonary congestion

Documentation must include a diagnosis of heart failure and evidence of treatment for heart failure. Patient’s clinical status may be compensated.

Clarification:
The diagnosis may be documented with a variety of terms such as: congestive heart failure (CHF), heart failure (HF), systolic heart failure, diastolic heart failure, heart failure with reduced EF (HFrEF), heart failure with preserved EF (HFpEF).

Renal dialysis is acceptable for the treatment component of this definition, if there is documentation that the patient is receiving dialysis as a treatment for heart failure.

Documentation of NYHA Class III or IV may fulfill both the diagnosis and symptoms components of this definition. Documentation of a lower NYHA class may fulfill the symptoms component, but there must also be documentation of a heart failure diagnosis.
V. Pre-Intervention Risk Factors (continued)

20. Malignant Ventricular Arrhythmia

Variable Name: MAL_VENT

Recent (within the past 14 days) sustained ventricular tachycardia requiring electrical defibrillation or conversion with intravenous antiarrhythmic agents or ventricular fibrillation requiring electrical defibrillation. Excludes V-Tach or V-Fib occurring within 6 hours of the diagnosis of a myocardial infarction and responding well to treatment.

Interpretation:
Sustained arrhythmia is that which continues until something is done to stop it; it does not resolve on its own.

For patients within 6 hours of the diagnosis of an MI who are experiencing V-Tach or V-Fib that otherwise meets the above criteria, you may still code this risk factor if the arrhythmia is not responding well to treatment. That is, if it continues despite electrical defibrillation or conversion with intravenous anti-arrhythmic agents.

If the patient has an AICD that is documented to have fired then CODE, unless the patient is within 6 hours of the diagnosis of an MI.

Regular oral medication for a ventricular arrhythmia is NOT sufficient reason to code the risk factor.
V. Pre-Intervention Risk Factors (continued)

21. Chronic Lung Disease

Variable name: COPD

Indicate whether the patient has chronic lung disease, and the severity level according to the following classification:

1. No
2. Mild - FEV$_1$ 60% to 75% of predicted, and/or on chronic inhaled or oral bronchodilator therapy.
3. Moderate - FEV$_1$ 50% to 59% of predicted, and/or on chronic oral steroid therapy aimed at lung disease.
4. Severe - FEV$_1$ <50% predicted, and/or Room Air pO$_2$ < 60 or Room Air pCO$_2$ > 50.

Interpretation:

A history of chronic inhalation reactive disease (asbestosis, mesothelioma, black lung disease or pneumoconiosis) may qualify as chronic lung disease. Radiation induced pneumonitis or radiation fibrosis also qualifies as chronic lung disease (if above criteria are met). A history of atelectasis is a transient condition and does not qualify.

Chronic lung disease can include patients with chronic obstructive pulmonary disease, chronic bronchitis, or emphysema. Patients with asthma or seasonal allergies are not considered to have chronic lung disease.

Acceptable documentation for “severe” includes pO$_2$ < 60 or pCO$_2$ > 50 on supplemental oxygen as well as on room air.

Do not use values obtained more than 12 months prior to the date of PCI.

Bedside spirometry may be used to identify the severity of chronic lung disease when there is a diagnosis of COPD or other qualifying chronic lung disease in the patient’s medical record. Findings on a full PFT or bedside spirometry such as “moderate obstructive defect” are not a diagnosis of chronic lung disease. For all cases, there must be a diagnosis of pre-procedure chronic lung disease to report this risk factor.

Documentation Note: Diagnosis must be present in the medical record. This information must be included with any medical record documentation submitted for review of this risk factor.
V. Pre-Intervention Risk Factors (continued)

22. Diabetes

Variable Name: DIABETES

Indicate whether patient has a history of diabetes diagnosed and/or treated by a healthcare provider.

Interpretation: The definition below is informational and data coordinator is not expected to diagnose diabetes. The American Diabetes Association criteria include documentation of the following:
1. A1c >=6.5%; or
2. Fasting plasma glucose >= 126 mg/dl (7.0 mmol/l); or
3. Two-hour plasma glucose >= 200 mg/dl (11.1 mmol/l) during an oral glucose tolerance test; or
4. In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose >= 200 mg/dl (11.1 mmol/l)

Clarification: Exclusions are steroid induced hyperglycemia and gestational (transient), without elevated HbA1c and/or treatment, code "no."

Not all patients receiving diabetic medications are considered diabetic. It is important to remember, some medications used to treat diabetes may be used to treat other conditions.

A hemoglobin A1c value of >= 6.5%, collected within 3 months prior to surgery, is acceptable to use for documentation of diabetes.

Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.9, used with permission.
V. Pre-Intervention Risk Factors (continued)

22a. Diabetes Therapy

Variable Name: DM_TRT

Indicate the control method (long-term management) the patient presented with on admission. Patients placed on a pre-procedure diabetic pathway of insulin drip at admission but were previously controlled by diet or oral method are not coded as insulin treated.

Choose the most aggressive therapy from the order below:

- Insulin: insulin treatment (includes any combination with insulin)
- Other subcutaneous medications (e.g., GLP-1 agonist)
- Oral: treatment with oral agent (includes oral agent with or without diet treatment)
- Diet only: Treatment with diet only
- None: no treatment for diabetes
- Other: other adjunctive treatment, non-oral/insulin/diet
- Unknown

1  None - No treatment for diabetes.
2  Diet only - Treatment with diet only
3  Oral Treatment - with oral agent (includes oral agent with or without diet treatment)
4  Insulin - Insulin treatment (includes any combination with insulin)
6  Other subcutaneous medication - Other subcutaneous medications (such as GLP-1 agonists; Byetta, Bydureon, Victoza, Symlin)
5  Other - Other adjunctive treatment, non-oral/insulin/diet
7  Unknown

If the patient has had a pancreatic transplant code “other” since the insulin from the new pancreas is not exogenous insulin.

Report this element for all cases where “Risk Factor #22 - Diabetes” is also reported. If the patient does not qualify for “Risk Factor #22 - Diabetes,” then leave the field blank or enter 0.

Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.9, used with permission.
V. Pre-Intervention Risk Factors (continued)

24. Renal Failure, Dialysis
Variable Name: REN_DIAL

Indicate whether the patient is currently (prior to PCI) undergoing dialysis.

**Interpretation:** Includes any form of peritoneal or hemodialysis patient is receiving prior to PCI. Also, may include Continuous Veno-Venous Hemofiltration (CVVH, CVVH-D), and Continuous Renal Replacement Therapy (CRRT) as dialysis.

Do not code for renal dialysis if ultrafiltration is the only documentation found in the record since this is for volume management.

28. Previous CABG Surgery
Variable Name: PREVSURG

Previous coronary artery bypass graft (CABG) surgery.

**Interpretation:** This risk factor may be reported if the CABG was during this admission, but before PCI, or in a previous admission.

*If the patient has an “A” or “V” coded in the lesion specific section and this risk factor is not reported, the case will be returned for validation.*

32. Emergency PCI Due to DX Cath Complication
Variable Name: EME_PTCA

Report if there was catheterization related dissection or obstruction of coronary artery during diagnostic catheterization, requiring immediate, unplanned angioplasty to treat closure or threatened closure of the vessel.
V. Pre-Intervention Risk Factors (continued)

34. Stent Thrombosis

Variable Name: STETHROM

Report if there was formation of a blood clot/thrombus in the stented segment of an artery and/or adjacent area. This usually results in an acute occlusion, chest pain or development of an acute MI.

Patient must be currently affected by stent thrombosis as evidenced by AMI, ACS, or clinical angina to code this risk factor.

Interpretation: An occlusion alone, in-stent restenosis, or plaque build-up does not constitute coding.

35. Any Previous Organ Transplant

Variable Name: ORGAN_TRANS

The patient has had any organ transplant prior to the PCI. This includes, but is not limited to: heart, lung, kidney, and liver transplants.

Interpretation: Also code for bone marrow transplant.

Do not code for corneal transplant or skin transplant (grafting).

45. High Risk of Bleeding

Variable Name: HR_BLEED

Report if any of the following apply:
- Blood dyscrasia as defined: thrombocytopenia (PLT <100K)
- History of bleeding diathesis or coagulopathy
- Baseline Hgb<11 g/dl (or anemia requiring transfusion during the 4 weeks prior to PCI)
- Any prior intracerebral bleed
- Hospital admission for bleeding during the prior 12 months
- Planned daily NSAID (other than aspirin) or steroids >=30 days after PCI
- Clinical indication for oral anticoagulation
VI. Major Events Following PCI

Check to be sure that all of the listed major events occurred during or after the intervention. Check at least one box in this section.

Please Note: A documented pre-intervention condition that persists post-intervention with no increase in severity is not a reportable major event.

All major events are only reported if they occur during or after PCI, but before hospital discharge.

0. None
Variable Name: NO_COMPS

Check if none of the Major Events listed below occurred during or after PCI, but before hospital discharge.

1. Stroke
Variable Name: STROKE

Indicate whether the patient has a post-PCI stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours.

Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.9, used with permission.

2. Q-Wave MI
Variable Name: TRANS_MI

New Q waves and a significant rise in cardiac enzyme (e.g. CK to at least 2.5 times the normal range), occurring within 24 hours after PCI.

7A. Acute Occlusion in the Targeted Lesion
Variable Name: OCC_TL

Acute occlusion, complete or partial, in the targeted lesion resulting in reduction of flow through the dilated artery. Usually caused by thrombosis, intimal flap, or dissection.

An occlusion which is reopened before the patient leaves the catheterization laboratory and stays open should not be reported. An occlusion requiring the patient’s return to the catheterization laboratory should be reported even if the vessel is then reopened.

If the acute occlusion is caused by a stent thrombosis, only code the stent thrombosis.
VI. Major Events Following PCI (continued)

7B. Acute Occlusion in a Significant Side Branch

*Variable Name: OCC_SSB*

Acute occlusion, complete or partial, in a significant side branch resulting in reduction of flow.

This should include any occlusion in any location within the significant proximal or distal branches of the targeted or treated vessel.

Usually caused by thrombosis, intimal flap, or dissection.

An occlusion, which is re-opened before the patient leaves the catheterization laboratory and stays open, should not be reported.

An occlusion requiring the patient’s return to the catheterization laboratory should be reported even if the vessel is then reopened.

8. A/V Injury at Cath Entry Site, Requiring Intervention

*Variable Name: AV_INJUR*

Arterial or Venous injury requiring intervention, including, but not limited to:  
  Those requiring femoral or brachial embolectomy  
  Evacuation of a hematoma  
  Repair of false aneurysm, example: ultrasound guided compressions  
  Closure of arterial-venous fistula  
  Thrombin injection

Transfusion with no other intervention does not require coding the major event.

10. Renal Failure

*Variable Name: RENALFAI*

Temporary or permanent renal dialysis of any type before hospital discharge.

Do not code this item if “Risk Factor #24 -Renal Failure, Dialysis” is reported.

**Interpretation:** For renal failure, initiation of dialysis is always a major event, regardless of the Pre-PCI creatinine or expectation of future need for dialysis.
VI. Major Events Following PCI (continued)

14. Emergency Cardiac Surgery

Variable Name: EMESURG

The patient requires cardiac surgery on an emergency basis due to a complication of PCI.

Interpretation: This major event should be reported for any cardiac surgery, not just those reportable in the NYS Cardiac Surgery Reporting System (CSRS). This includes cardiac surgery that does not take place in the operating room. Examples of reportable surgeries include but are not limited to: CABG, cardiac massage and cardiac explorations.

17. Stent Thrombosis

Variable Name: ST_THROM

Formation of a blood clot in the stented segment of the artery and/or adjacent area. This usually results in an acute occlusion, chest pain, or development of an acute MI.

Interpretation: An occlusion alone or plaque build-up does not constitute coding. The thrombus needs to be in or around the area that is stented for the major event to be coded.

Report only if stent thrombosis occurs before hospital discharge.

18. Emergency Return to the Cath Lab for PCI

Variable Name: ER_CATH

The patient is taken to the Cath Lab for PCI on an emergency basis due to a complication of a previous PCI.

19. Coronary Perforation

Variable Name: CORN_PERF

Indicate if there was a coronary perforation during this lab visit.

Type III – extravasation through a frank (1 mm) perforation

Do not code if the perforation is repaired during the same lab visit as the PCI. If the perforation requires emergency cardiac surgery then the Major Event #14-Emergency Cardiac Surgery should also be coded.
VII. Discharge Information

Additional Procedure Planned - Staged Procedure

Variable Name: STAGE_PLAN

Use the following codes to indicate if, at the end of this procedure, it is expected that another procedure (PCI or CABG) will be performed within 60 days on a different lesion location in a non-emergency setting.

0  No additional procedure planned as staged treatment strategy
1  Yes, additional PCI planned as part of staged treatment strategy
2  Yes, CABG planned as part of staged treatment strategy.
3  Yes, Valve procedure planned as part of a staged treatment strategy

Interpretation:
Report "No" if at the end of this procedure there is a plan to wait for clinical or laboratory evidence to decide if another procedure is necessary.

Report "No" if this procedure was a failed attempt and the plan is to “try again” at a later time.

Discharge Status

Variable Name: STATUS, STAT_SPE

Report the appropriate code.

Discharged Alive: Died In:
11 - Home 2 - Operating Room
12 - Hospice 3 - Recovery Room
13 - Acute Care Facility 4 - Critical Care Unit
14 - Skilled Nursing Facility 5 - Medical/Surgical Floor
15 - In-patient Physical Medicine and Rehab 6 - Cath Lab
19 - Other(specify) 7 - In-transit to another Facility

Hospice discharge (including home with hospice), should be reported as code 12.
For purposes of analysis this is considered an in-hospital mortality unless the hospital provides documentation that 30 days after discharge the patient was still alive (even if still in hospice).

Use code 11-Home for patients who arrive from and are discharged to prison or correctional facility.

If the patient is discharged to sub-acute rehab that is in a skilled nursing facility, then use code 14. For sub-acute rehab in other settings or if facility type is unknown, use code 19, and enter the name of the facility.
VII. Discharge Information
(continued)

Discharged Status (cont’d.)

Use code 14 for patients who arrive from and are discharged to a skilled nursing home.

Use code 15 for patients discharged to an in-patient physical medicine and rehabilitation unit for acute rehab.

Use 19–Other for a live discharge status not otherwise specified (e.g. AMA).

If 8–Elsewhere in Hospital is checked, specify where the patient died.

*Any discharge status 8 or 19 that does not specify where the patient was discharged to will be sent back to the hospital for completion.*

Hospital Discharge Date

*Variable Name: DISDATE*

Enter the date the patient was discharged from the hospital.

If the patient died in the hospital, the hospital discharge date is the date of death.

30-Day Status

*Variable Name: THIRTYDAY*

Report the patient’s status at 30 days post-procedure using the appropriate code. Live (1); Dead (2); Unknown (9)

This data element is intended as a tool to assist in tracking post-discharge outcomes. It is not required for data reporting; however, some response must be provided for each case. Enter 9-Unknown if 30-day status is not tracked by your facility and is therefore unknown.
# Attachment A
## PFI Numbers for Cardiac Diagnostic and Surgical Centers

<table>
<thead>
<tr>
<th>PFI</th>
<th>Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALBANY AREA</strong></td>
<td></td>
</tr>
<tr>
<td>0001</td>
<td>Albany Medical Center Hospital</td>
</tr>
<tr>
<td>0746</td>
<td>Bassett Medical Center</td>
</tr>
<tr>
<td>0829</td>
<td>Ellis Hospital</td>
</tr>
<tr>
<td>1005</td>
<td>Glens Falls Hospital</td>
</tr>
<tr>
<td>0756</td>
<td>Samaritan Hospital</td>
</tr>
<tr>
<td>0818</td>
<td>Saratoga Hospital</td>
</tr>
<tr>
<td>0005</td>
<td>St. Peter's Hospital</td>
</tr>
<tr>
<td>0135</td>
<td>University of Vermont Health Network Champlain Valley Physicians Hospital</td>
</tr>
<tr>
<td><strong>BUFFALO AREA</strong></td>
<td></td>
</tr>
<tr>
<td>0207</td>
<td>Buffalo General Medical Center</td>
</tr>
<tr>
<td>0210</td>
<td>Erie County Medical Center</td>
</tr>
<tr>
<td>0213</td>
<td>Mercy Hospital of Buffalo</td>
</tr>
<tr>
<td>0574</td>
<td>Niagara Falls Memorial Medical Center</td>
</tr>
<tr>
<td>0066</td>
<td>Olean General Hospital</td>
</tr>
<tr>
<td>0103</td>
<td>Women's Christian Association Hospital</td>
</tr>
<tr>
<td><strong>ROCHESTER AREA</strong></td>
<td></td>
</tr>
<tr>
<td>0116</td>
<td>Arnot Ogden Medical Center</td>
</tr>
<tr>
<td>0411</td>
<td>Rochester General Hospital</td>
</tr>
<tr>
<td>0413</td>
<td>Strong Memorial Hospital</td>
</tr>
<tr>
<td>0471</td>
<td>Unity Hospital of Rochester</td>
</tr>
<tr>
<td><strong>SYRACUSE AREA</strong></td>
<td></td>
</tr>
<tr>
<td>0977</td>
<td>Cayuga Medical Center</td>
</tr>
<tr>
<td>0636</td>
<td>Crouse Hospital</td>
</tr>
<tr>
<td>0598</td>
<td>St. Elizabeth Medical Center</td>
</tr>
<tr>
<td>0630</td>
<td>St. Joseph's Hospital Health Center</td>
</tr>
<tr>
<td>0058</td>
<td>United Health Services Hospital, Inc.-Wilson Medical Center</td>
</tr>
<tr>
<td>0635</td>
<td>University Hospital SUNY Health Science Center (Upstate)</td>
</tr>
<tr>
<td>PFI</td>
<td>Facility</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
</tr>
<tr>
<td>0885</td>
<td>Long Island Community Hospital</td>
</tr>
<tr>
<td>0779</td>
<td>Good Samaritan Hospital of Suffern</td>
</tr>
<tr>
<td>0925</td>
<td>Good Samaritan Hospital Medical Center-West Islip</td>
</tr>
<tr>
<td>0913</td>
<td>Huntington Hospital</td>
</tr>
<tr>
<td>0990</td>
<td>HealthAlliance Hospital – Broadway Campus</td>
</tr>
<tr>
<td>0989</td>
<td>HealthAlliance Hospital – Mary’s Avenue Campus</td>
</tr>
<tr>
<td>0513</td>
<td>Mercy Medical Center</td>
</tr>
<tr>
<td>0180</td>
<td>MidHudson Regional Hospital of Westchester Medical Center</td>
</tr>
<tr>
<td>1072</td>
<td>Montefiore New Rochelle Hospital</td>
</tr>
<tr>
<td>0528</td>
<td>Nassau University Medical Center</td>
</tr>
<tr>
<td>0541</td>
<td>North Shore University Hospital</td>
</tr>
<tr>
<td>1122</td>
<td>NYP Lawrence Hospital</td>
</tr>
<tr>
<td>0511</td>
<td>NYU-Winthrop University Hospital</td>
</tr>
<tr>
<td>0699</td>
<td>Orange Regional Medical Center</td>
</tr>
<tr>
<td>0938</td>
<td>Peconic Bay Medical Center</td>
</tr>
<tr>
<td>0527</td>
<td>South Nassau Communities Hospital</td>
</tr>
<tr>
<td>0889</td>
<td>Southampton Hospital</td>
</tr>
<tr>
<td>0924</td>
<td>Southside Hospital</td>
</tr>
<tr>
<td>0943</td>
<td>St. Catherine of Siena Medical Center</td>
</tr>
<tr>
<td>0563</td>
<td>St. Francis Hospital (aka St. Francis Hospital The Heart Center, Roslyn)</td>
</tr>
<tr>
<td>0694</td>
<td>St. Luke’s Cornwall Hospital-Newburgh</td>
</tr>
<tr>
<td>0245</td>
<td>University Hospital - Stony Brook</td>
</tr>
<tr>
<td>0181</td>
<td>Vassar Brothers Medical Center</td>
</tr>
<tr>
<td>1139</td>
<td>Westchester Medical Center</td>
</tr>
<tr>
<td>1045</td>
<td>White Plains Hospital</td>
</tr>
</tbody>
</table>

**NY CITY AREA**

<table>
<thead>
<tr>
<th>PFI</th>
<th>Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1438</td>
<td>Bellevue Hospital Center</td>
</tr>
<tr>
<td>1178</td>
<td>BronxCare Health System-Concourse</td>
</tr>
<tr>
<td>1286</td>
<td>Brookdale Hospital Medical Center</td>
</tr>
<tr>
<td>1288</td>
<td>Brooklyn Hospital Center-Downtown</td>
</tr>
<tr>
<td>1294</td>
<td>Coney Island Hospital</td>
</tr>
<tr>
<td>1626</td>
<td>Elmhurst Hospital Center</td>
</tr>
<tr>
<td>1445</td>
<td>Harlem Hospital Center</td>
</tr>
<tr>
<td>1309</td>
<td>Interfaith Medical Center (Brooklyn)</td>
</tr>
<tr>
<td>1165</td>
<td>Jacobi Medical Center</td>
</tr>
<tr>
<td>1629</td>
<td>Jamaica Hospital Medical Center</td>
</tr>
<tr>
<td>1301</td>
<td>King’s County Hospital Center</td>
</tr>
<tr>
<td>1450</td>
<td>Lenox Hill Hospital</td>
</tr>
<tr>
<td>1630</td>
<td>Long Island Jewish Medical Center</td>
</tr>
<tr>
<td>1305</td>
<td>Maimonides Medical Center</td>
</tr>
<tr>
<td>1169</td>
<td>Montefiore Medical Center-Henry and Lucy Moses Division</td>
</tr>
<tr>
<td>1304</td>
<td>NYU Langone Hospital-Brooklyn</td>
</tr>
<tr>
<td>PFI</td>
<td>Facility</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td><strong>NY CITY AREA (CONT.)</strong></td>
</tr>
<tr>
<td>3058</td>
<td>Montefiore Medical Center-Jack D. Weiler Hospital of A. Einstein College Division</td>
</tr>
<tr>
<td>1439</td>
<td>Mount Sinai Beth Israel</td>
</tr>
<tr>
<td>1456</td>
<td>Mount Sinai Hospital</td>
</tr>
<tr>
<td>1469</td>
<td>Mount Sinai St. Luke’s</td>
</tr>
<tr>
<td>1306</td>
<td>NYP Hospital - Brooklyn Methodist Hospital</td>
</tr>
<tr>
<td>1464</td>
<td>NY Presbyterian-Columbia Presbyterian Center</td>
</tr>
<tr>
<td>1458</td>
<td>NY Presbyterian-NY Weill Cornell Center</td>
</tr>
<tr>
<td>1637</td>
<td>NY Presbyterian-Queens</td>
</tr>
<tr>
<td>1463</td>
<td>NYU Hospitals Center Center</td>
</tr>
<tr>
<td>1176</td>
<td>St. Barnabas Hospital</td>
</tr>
<tr>
<td>1740</td>
<td>Staten Island University Hospital-North</td>
</tr>
<tr>
<td>1738</td>
<td>Richmond University Medical Center</td>
</tr>
<tr>
<td>1320</td>
<td>University Hospital of Brooklyn</td>
</tr>
<tr>
<td>1318</td>
<td>Wyckoff Heights Medical Center</td>
</tr>
</tbody>
</table>

8888  Catheterization Laboratory at a Veterans Administration Hospital in New York. (for use in this reporting system; not an official Permanent Facility Identifier)

9999  Catheterization Laboratory Outside New York State (for use in this reporting system; not an official Permanent Facility Identifier)

A complete listing of NYS hospitals, including their PFI can be found at: [http://www.health.ny.gov/statistics/sparcs/reports/compliance/alpha_facilities.htm](http://www.health.ny.gov/statistics/sparcs/reports/compliance/alpha_facilities.htm)

Use the last four digits of the number listed to the right of the name for the PFI.
Attachment C
Payer Codes

01  Medicare—Fee For Service
02  Medicare—Managed Care
03  Medicaid—Fee For Service
04  Medicaid—Managed Care
05  Blue Cross
06  HMO/Managed Care
07  Other Private Insurance Company
11  Self Pay
19  Other
Attachment D
Codes for Location of Lesion

Use the list and diagram below to find the code for location of lesion.

1. Prox RCA
2. Mid RCA
3. Dist RCA
4. R PDA
5. RPLS
6. 1st RPL
7. 2nd RPL
8. 3rd RPL
9. Inf. Septal
10. Ac Marg
11. LMCA
12. Prox LAD *
13. Mid LAD
14. Dist LAD
15. 1st Diag or Intermediate Branch
16. 2nd Diag
17. 1st Septal
18. Prox CX
19. Dist CX
20. 1st Ob Marginal
21. 2nd Ob Marginal
22. 3rd Ob Marginal
23. L A V
24. 1st LPL
25. 2nd LPL
26. 3rd LPL
27. LPDA
41. Vein Graft to LMCA
42. Artery Graft to LMCA
51. Vein Graft to LAD
52. Artery Graft to LAD
61. Vein Graft to LCX
62. Artery Graft to LCX
71. Vein Graft to RCA
72. Artery Graft to RCA
88. PTMR

* Code 12 refers to the region before the origin of the major septal artery.
Attachment E
2019
Device and Stent List

Use the following values to code procedures and/or devices used during the intervention.

**Device Codes:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Lesion Not Attempted or No Device Used</td>
</tr>
<tr>
<td>1</td>
<td>Balloon</td>
</tr>
<tr>
<td>3</td>
<td>Rotational Atherectomy</td>
</tr>
<tr>
<td>4</td>
<td>Protective Devices (Including Filter Wires)</td>
</tr>
<tr>
<td>5</td>
<td>Cutting Balloon</td>
</tr>
<tr>
<td>12</td>
<td>Mechanical Thrombus Extraction</td>
</tr>
<tr>
<td>13</td>
<td>Aspiration Thrombectomy</td>
</tr>
<tr>
<td>14</td>
<td>Laser Atherectomy</td>
</tr>
<tr>
<td>15</td>
<td>Orbital Atherectomy</td>
</tr>
<tr>
<td>98</td>
<td>Attempted PCI – No Device Used</td>
</tr>
<tr>
<td>99</td>
<td>Other (Specify)</td>
</tr>
</tbody>
</table>

**Stents:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No Stent Used</td>
</tr>
<tr>
<td>10</td>
<td>Bare Metal Stent</td>
</tr>
<tr>
<td>11</td>
<td>Covered Stent</td>
</tr>
<tr>
<td>20</td>
<td>Resolute (ZES)</td>
</tr>
<tr>
<td>30</td>
<td>Ion (PES)</td>
</tr>
<tr>
<td>40</td>
<td>Promus (EES)</td>
</tr>
<tr>
<td>41</td>
<td>Xience (EES)</td>
</tr>
<tr>
<td>42</td>
<td>Synergy (EES)</td>
</tr>
<tr>
<td>43</td>
<td>Absorb BVS (EES)</td>
</tr>
<tr>
<td>44</td>
<td>Orsiro (EES)</td>
</tr>
<tr>
<td>50</td>
<td>Elunir (RES)</td>
</tr>
<tr>
<td>88</td>
<td>Blinded Study Stent</td>
</tr>
<tr>
<td>99</td>
<td>Other Stent (Specify)</td>
</tr>
</tbody>
</table>