Integrating the Healthcare Enterprise

IHE Cardiology
Technical Framework Supplement

Registry Content Submission – CathPCI V4.4 (RCS-C)

Trial Implementation

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Foreword

This is a supplement to the IHE Cardiology Technical Framework 5.0. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on July 18, 2014 for trial implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the Cardiology Technical Framework. Comments are invited and can be submitted at http://www.ihe.net/Cardiology_Public_Comments.

This supplement describes the content needed to provide the data needed to support submissions to the NCDR™ CathPCI Registry version 4.4. As the document progresses we will show amended text by addition (**bold underline**) or removal (~~**bold strikethrough**~~). The addition of new sections are prefaced by editor's instructions to "add new text" or similar, which for readability are not bolded or underlined.

"Boxed" instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

Amend section X.X by the following:

Where the amendment adds text, make the added text **bold underline**. Where the amendment removes text, make the removed text ~~**bold strikethrough**~~. When entire new sections are added, introduce with editor's instructions to "add new text" or similar, which for readability are not bolded or underlined.

General information about IHE can be found at: www.ihe.net.

Information about the IHE Cardiology domain can be found at: ihe.net/IHE_Domains.

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at: http://ihe.net/IHE_Process and http://ihe.net/Profiles.

The current version of the IHE Cardiology Technical Framework can be found at: http://ihe.net/Technical_Frameworks.

CONTENTS

Introduction to this Supplement

This Supplement introduces a new content profile to the IHE Cardiology Technical Framework – the Registry Content Submission – CathPCI V4.4 (RCS-C) Profile. The overall context is provided in Volume 1. The specific content is detailed in Volume 3. While this content model addresses the needs of the NCDR® CathPCI V4.4 Registry®, the goal is to design re-usable set of templates that can be adapted to fit the needs of other NCDR registries as well.

This content profile serves as an industry standard content specification that is based on HL7 Clinical Document Architecture (CDA) standard use by participating healthcare organizations to submit content to the NCDR® CathPCI Registry® V4.4.

Today, data submitted to a NCDR registry is structured using a custom data format designed by the American College of Cardiology Foundation (ACCF). Creating a replacement for the custom format using the HL7 Clinical Document Architecture (CDA) standard as its foundation facilitates the reuse of other document specifications based upon that same standard, such as the HL7 Implementation Guide for CDA Release 2: IHE Health Story Consolidation, DSTU Release 1.1 and the IHE Cath Report Content (CRC). Systems, which implement one or more of these specifications, may harvest document instances created in these formats as a source for data required for creation of the RCS-C document.

Open Issues and Questions

#	Open Issue Description
2	How should business rules be documented? What is the collection of rules that needs documentation? Possible Answer: The content model will indicate which data can be communicated. It will also address issues of cardinality, element data type, and value set constraints. Business rules that address concerns specific to ACCF as a consumer, e.g., thresholds, will exist as independent vendor documentation. Conformance to this content profile will not be a substitute for ACCF certification prior to submitting data to the NCDR CathPCI Registry. The certification may require adherence to business rules considered beyond the scope of this specification.
7	The structure of the content profile has been made more complex by inclusion of “modifier observations” in cases where the meaning of the modifier content is not clear unless it is tightly linked to (nested within) the element it refers to. For example, within Medical History, the concept of diabetes therapy is linked to the concept of patient diabetes. In some cases, this has been done to facilitate the use of standard – mostly SNOMED – codes. An alternative would be to flatten the structure; in the case above, the observation could refer to “diabetes therapy” and not to “therapy”. If the needed codes do not exist in the coding system, is it better to craft ACC local codes, or to work with post-coordinated concepts in a code system such as SNOMED that allows this?

#	Open Issue Description
20	Missing valid LOINC codes in the content section Possible Answer: LOINC codes are to be used for the document type, and for section types. NCDR is in the process of obtaining LOINC codes. Currently they are represented as “LOINC_xxx” in the content profile, where XXX represents the last segment of the OID for the section or header template.
27	When the content profile includes observations in which observation value may require the use of different data types and/or value set references depending on the value of observation code, it would be good to identify separate constraint # for each possible observation code value.
28	What is the proper versioning strategy for templates? There is general agreement a strategy is needed, but not on how it should be implemented. One proposal is that templates should not be independently versioned but should all take their version from the content profile version.
33	Elements such as observation effective time (in the Pre-procedure observation template) should not be included unless specifically needed to support CathPCI data elements.
34	The strategy of creating separate templates to capture values such as TIMI before and after PCI intervention seems unnecessary.
35	The document includes information on “particular treatments applied to the lesion during the procedure” by referring to a value set with selected procedure types. This is a) insufficiently detailed, and b) not properly modeled since these items should be treated as observations.

Closed Issues

#	Closed Issue Description / Resolution
1	What should be the strategy for assigning OIDs to the templates used within the content profile? Answer: IHE assigned OIDs are used. OIDs within the implementation guide are based on a node assigned by IHE Cardiology. The OID root to be used is 1.3.6.1.4.1.19376.1.4.1.6

#	Closed Issue Description / Resolution
3	Constraints contain Shall, Should, or May in a sentence. They do not need to have CONF: #. There does not seem to be a standard format for constraints. Answer: HL7 Structured Document WG practice mandates creating a conformance ID for each statement that records optionality (SHALL, SHOULD, MAY), cardinality (whether or not the item repeats), data type, assigned value set, and fixed value for an element or attribute within an XML instance. Constraint types that go beyond these items are addressed either as text within the body of the content profile or as notes on specific template elements. This standard format is followed within the guides published as consolidated CD.
4	The CathPCI form currently captures information on procedure complications (Section J) under the heading of Procedure Observations. The content profile records these items as “clinical findings”. However, this is confusing, it would be better to create a separate complications entry. Answer: A new Entry – Procedure Session Event – has been created.
5	The object identifiers (OID) used in the template for templates and for value sets currently are based on an OID root assigned by HL7 to ACC. However, since this is an IHE publication, the OIDS should follow the format used within IHE, and take their root value from the one used in other IHE Cardiology specifications. Answer: As noted within closed issue #1, IHE assigned OIDs are used for both templates and value sets.
6	We need to consider whether hard coded (static) tables may need to be dynamic. The content profile can publish the URL for these tables. The content profile currently includes an initial set of values for this table, but perhaps should not. Answer: Tables for medications and device types have been defined as dynamic. The URL to be used is included within the draft.
8	The Template containment table within this content profile includes the Document Header as the root template. However, other IHE profiles separate the header into a separate section, and handle the containment as only referring to the CDA structured body. Should that be done here? Answer: The already established IHE pattern will be followed.
9	What will be the workflow and batching strategy for registry reporting using this content model? Answer: Defining workflow and batch requirement is outside of the scope of the IHE Content Model.

#	Closed Issue Description / Resolution
10	The requirement for communicating multiple encounters in a document needs to be documented within the use case. Answer: Yes. The use case has been updated to note that the registry report for a patient includes all encounters within a reference time period.
11	Blinded submissions withhold protected health information that would reveal the identity of the patient, how does this get captured in the header? Answer: The null flavor “MSK” is used to indicate that data is not being provided due to a requirement for blinding. Only elements whose @nullflavor data type components are included in the template specification are eligible to be masked.
12	It is important to record multiple races and multiple ethnicities for a patient, but the CDA header supports only a single race and ethnicity Answer: Create a Patient Demographics section to include items that have requirements not supported within the CDA document header. In addition to ethnicity, we propose to include race here so that implementers can use the original CDA schema, and so that race information is captured within a single element.
13	If the submission is PCI only, how does this get captured in the header? What about other conditional submissions? Answer: Specific details of this sort, do not need to be captured in the header, they will be present in the body of the document. We do plan to request LOINC codes to identify the registry submission document and its sections as noted in Issue #20.
14	How do we capture a specific ‘no’ to a question, like anti-anginal medication use? By the same token, how can the model indicate medication not taken as well as medication that was taken? Answer: When it is necessary to record that a procedure was not performed or that a substance administration did not take place (or was not ordered), act negation indicator will be used. However, for observations, due to the known ambiguity surrounding the use of negation indicator, we will adopt the style that condition in question will be indicated using Observation.code, while observation value will be either Yes or No.
15	What is the proper code system to use for capturing clinical drug, and medication class? Answer: RxNorm will be used for drugs; SNOMED will be used for medication class.
16	What is the proper code system for capturing device type? Answer: FDA’s UDI has been suggested, but the UDI implementation does not include a pre-defined list of device types. We will use the current NCDR proprietary code system.

#	Closed Issue Description / Resolution
17	The CRC content model contains constraints tables to show units of measures and data types (for observation value). This content model needs to do the same. Answer: Yes, this detail is included. We will also cite the value set for observation value when the code for the observation requires a coded value.
18	A concern was raised regarding whether the vendor or hospital will be able to manage the process of creating OIDS for patient IDs. Answer: A system that can implement CDA will have the knowledge regarding OIDs.
19	Discharge Section-Medication: values set with yes, no, blinded, and contraindicated. All questions have to be sent with the answers. Effective date (administered date) should be included. Answer: The discharge section must indicate whether the drug was prescribed, contra-indicated or blinded. Date of administration is not captured within the registry report.
21	The content profile has been constructed without reuse of existing templates, disregarding the possibility of reusing structures already created for C-CDA and IHE CRC. This strategy needs reconsideration in light of the widespread belief that reusing existing templates is a benefit to implementers. Answer: The development group believes that reuse is only appropriate and useful if the requirements of new functionality are virtually the same as those for which a template was originally designed. It is important to note that creating inheritance structures to define partial reuse introduces complexity for implementers, which has to be balanced against the benefits from reuse.
22	The committee requests comment on the level of alignment between this new RCS-C Profile and the existing published CRC Profile. One level of alignment could include a mapping between information represented in the CRC Profile to information represented in the RCS-C Profile. A closer level of alignment includes re-use of common templates and value sets between the CRC and RCS-C Profiles. There is concern that, as written, these two profiles may not allow for sufficient re-use of the CRC content as input for the RCS-C content. The IHE Cardiology Cath Report Content (CRC) Profile, published for Trial Implementation in 2012, defines the structured content for the clinical procedure summary report including data collected during the diagnostic catheterization and/or PCI procedures. This profile is based on HL7 CDA and the HL7 C-CDA Procedure Note. It re-uses C-CDA templates, extending them where necessary. The ACCF/AHA/SCAI 2014 Health Policy Statement on Structured Reporting for the Cardiac Catheterization Laboratory (April 2014) includes the recommendation that vendors adhere to this CRC Profile.

#	Closed Issue Description / Resolution
	Answer: The need to facilitate use of both profiles is being met by a) ensuring that where the same concept is used in value sets in the two templates that the same standard code is used, and b) by documenting common mappings from the NCDR CathPCI V4.4 form to the two content profiles.
23	The content profile should be tied clearly to a particular version of the CathPCI Registry, therefore the value of information recipient should not be open, but should be hard coded to Version 4.4. If not, there must be a value set to pick from. Answer: The draft content profile is listing the CathPCI V4.4. Registry as the receiver.
24	It is appropriate to use the extension within the template ID to indicate versioning; however, the content profile constraints should not include a pre-defined value for this. Answer: This pattern has been followed.
25	When the content profile refers to a value set containing a list of possible observation types, the optionality and cardinality of each observation type must be specified. (This goes for lists of procedure and substance administration types as well.) Answer: The content profile includes a mapping between the CathPCI V4.4 form and the implementation guide structure. That mapping is used to specify the optionality and cardinality of implementation guide elements.
26	When the content profile refers to a value set containing a list of possible observation (procedure, substance administration) types, the code system to be used for each code must be specified. Answer: The included value set also refers to the code system for each value set member.
29	Display name should be included along with code for items such as section code. Answer: This will be done.
30	Registry submitters are instructed to fill out all the items listed on the CathPCI data collection form, when these items are represented using a repeating observation element (or template or substance administration), the cardinality statement on the constraint should indicate this requirement. Answer: This information is included within the mapping table section of the document.

#	Closed Issue Description / Resolution
31	The content profile includes a template – Medical History – that has the same name as a related but differently structured template in C-CDA. The document should not duplicate names in this way. Answer: The name of this section has been changed to more closely align with the usage on the registry reporting form.
32	The content profile needs to specifically indicate that a) either a diagnostic cath or a PCI or both must occur, and it should b) provide specific structures to address the features of each of these procedure types. Answer: This information is included within the mapping table section of the document.

General Introduction

The Registry Content Submission – CathPCI V4.4 (RCS-C) Profile specifies the data structure and vocabulary for a submission to the NCDR® CathPCI Registry® V4.4. The specification is aimed at implementation within the US Realm. The CathPCI Registry® is a powerful tool that assesses the characteristics, treatments and outcomes of cardiac disease patients who receive diagnostic catheterization and/or percutaneous coronary intervention (PCI) procedures. It allows a facility to compare their outcomes to a national aggregate and a like group of similar annualized procedure volume facilities. Helping facilities document compliance with ACCF/AHA Clinical Guidelines recommendations and performance measures is an important goal supported by the registry.

The registry collects and measures:

- Patient demographics, provider and facility characteristics
- History/risk factors, cardiac status, treated lesions
- Intracoronary device utilization and adverse event rates
- Appropriate Use Criteria for coronary revascularization
- Risk adjusted mortality, bleeding and acute kidney injury outcomes

This content profile is developed as an IHE specification to provide an industry standard specification for reporting to the NCDR CathPCI registry. Use of an industry standard will reduce the reporting burden on submitters by using the same standard that is mandated for hospital reporting within the context of Meaningful Use. Over a longer term, additional content profiles will be developed to support reporting to the full range of NCDR registries. Having a consistent set of specifications for all NCDR registries will reduce the maintenance and implementation burden both for registry reporters, and for the registries themselves.

The RCS-C Content Profile specifies the use of a HL7 Clinical Document Architecture (CDA) format for the report.

Supporting Documents

1. Complete XML example of RCS-C Profile document.
2. CathPCI V4.4 Data collection form marked to match the example.

Copyright Information

Glossary

No new glossary terms

Volume 1 – Profiles

14 Registry Content Submission – CathPCI V4.4 Profile (RCS-C)

The Registry Content Submission-CathPCI V4.4 (RCS-C) Profile specifies the content structure and value sets for reporting the data elements collected during a cardiac catheterization and/or PCI to the NCDR®. The scope of the RCS-C content is stipulated by the NCDR specifications for providing data and required value sets to the NCDR CathPCI Registry V4.4.

The RCS-C Profile specifies the use of an HL7 Clinical Document Architecture (CDA) Release 2.

14.1 RCS-C Actors, Transactions, and Content Modules

Figure 14.1-1 shows the actors directly involved in the RCS-C Profile and the relevant transactions between them. There are two actors in this profile, the Content Creator and the Content Consumer. Content is created by a Content Creator and is to be consumed by a Content Consumer. The sharing or transmission of content from one actor to the other is addressed by the appropriate use of other IHE profiles, and is out of scope of this profile; hence there is no transaction per se defined for this profile.

Figure 14.1-1: RCS-C Profile Actor Diagram

14.1.1 Actor Descriptions and Actor Profile Requirements

14.1.1.1 Content Creator

1. A Content Creator shall be able to create a Registry Content Submission – CathPCI V4.4 document for the CathPCI Registry V4.4 according to the specifications presented within this document. The role of content creator may be filled by a healthcare facility system that documents the cardiac catheterization and PCI procedures.

14.1.1.2 Content Consumer

A Content Consumer shall be able to consume (receive and process) a RCS-C document, as discussed within PCC-TF 2: 3.1.4. The reader should note that the PCC Technical framework, in the applicable section, suggests that a content consumer be able to "support the storage of the structured content of one or more sections of the document." For RCS-C, it is intended that storage of all section of the document be supported. A Content Consumer shall provide discrete data import functionality.

1. A Content Consumer shall implement the Discrete Data Import Option.
2. A Content Consumer shall:

a. Store the document.

b. Demonstrate the ability to access the document again from that storage.

14.2 RCS-C Actor Options

Options that may be selected for this content profile are listed in Table 14.2-1 along with the Actors to which they apply. Dependencies between options when applicable are specified in notes.

Table 14.2-1: RCS-C Profile Options

Actor	Option Name	Optionality	Section
Content Consumer	Discrete Data Import Option	No option defined	
Content Creator	No options defined		

14.3 RCS-C Required Actor Groupings

The Content Creator shall be grouped with Time Client Actor of the IHE IT Infrastructure Consistent Time Profile, as specified in ITI TF-1:7. This allows the Legal Authentication timestamp to be accurate. Content modules describe the content of a payload found in an IHE transaction. Content profiles are transaction neutral. They do not have dependencies upon the transaction that they appear in.

14.4 RCS-C Overview

The Registry Content Submission – CathPCI V4.4 (RCS-C) Profile specifies the content structure for reporting the findings of a cardiac catheterization and/or PCI to the NCDR-CathPCI Registry V4.4. This profile specifies the use of an HL7 Clinical Document Architecture (CDA) format for the RCS-C Profile content.

This profile does not provide all of the details necessary to construct a CDA compliant document. Refer to the HL7 CDA Release 2 Standard for complete instructions. Additional details may also be found within the HL7 Implementation Guide for CDA Release 2: IHE Health Story Consolidation, DSTU Release 1.1.

14.4.1 Concepts

Not Applicable

14.4.2 Use Cases

14.4.2.1 Use Case #1: Compile and Transfer RCS-C content

The RSC-C Content Profile supports a single use case, Compile and Transfer RSC-Content (i.e., Submission to a CathPCI Registry). In this use case the data required to create the RSC-C document instance is gathered by the Content Creator, the completed document instance is sent from the Content Creator to a Content Consumer, the Content Consumer parses the content and extracts the discrete data.

14.4.2.1.1 Compile and Transfer RCS-C content Description

The CathPCI cardiac registry collects data for patients who have received a diagnostic cardiac catheterization and/or a PCI procedure to be used for quality assessment and reporting purposes.

Data which has been defined for collection must be retrieved from the patient's record and formatted for transmission to a registry. The formatted transaction is transmitted to a registry, and uploaded to a registry database to support reporting and analysis.

Data collected for the registry submission includes the following principal categories:

- Basic demographic information on the patient
- Relevant indications from the patient's medical history
- Relevant information from the catheterization laboratory visit – each visit is discussed as a “procedure session” within the content profile
- Information needed to evaluate the patient's condition prior to the procedure. This includes clinical findings that inform the reason for the diagnostic catheterization, results of stress or imaging studies etc. drawn from a specified period of time prior to each catheterization laboratory visit.
- Clinical observations relevant to each diagnostic catheterization or PCI procedure performed
- Additional procedures performed during the catheterization
- Laboratory visit which are necessary components of the primary procedures performed e.g., use of mechanical ventricular support, arterial closure
- Events experienced during and immediately after the catheterization laboratory visit
- Discharge information including mortality, discharge location and prescribed medications

The amount of data to be transmitted varies depending on the type of procedure that has been performed. There is information collected specifically for a PCI, which is not relevant to patients who only receive the diagnostic cardiac catheterization. The elements needed for the two different types of procedures are identified in the mapping table.

The classification used is Diagnostic Data Set (DDS) and Full Data Set (FDS). If a diagnostic catheterization is the only procedure performed, registry submissions are only required to include

a defined number of elements specific to diagnostic catheterization procedures, referred to as the Diagnostic Data Set (DDS). If a diagnostic catheterization and PCI are both performed during the encounter, then the healthcare facility is required to submit the full data set (FDS), i.e., all data elements. In addition, there are sites, which do not submit personal health information. The mapping addresses these items by indicating which values may be masked.

14.4.2.1.2 Compile and Transfer RCS-C Content Process Flow

Pre-conditions

A diagnostic catheterization and/or PCI lab procedure is performed and data is collected for the procedures in a clinical procedure report, possibly in a CRC document. This includes data for the period immediately prior and post the procedure as specified by NCDR.

At the point the patient is discharged from the facility, relevant data for the encounter is made available for registry reporting.

The trigger for this use case main flow is when the healthcare provider or organization decides to submit to the NCDR registry to meet the deadlines for quarterly submission for the data to appear in a Data Quality Report (DQR).

Main Flow

1. The relevant data for all eligible encounters during a submission period is assembled and organized into a submission package including RCS-C documents.
    - Each healthcare facility supports one or more systems that aggregate the relevant data for populating the RCS-C Content Profile. Information may be directly available by accessing the facilities electronic health record system or a departmental cardiovascular imaging and information system.
    - Information may also be extracted from the underlying paper or electronic records by trained staff. In many cases data will be drawn from an electronic system and some from the paper record to be entered into a specialized registry reporting system by trained staff. In principle, this process could be automated using a registry submission system not requiring human staffing.
    - Systems that implement the IHE Cath Report Content (CRC) Profile for the diagnostic catheterization and/or PCI procedure report may use that report content to populate the RCS-C. Since both the CRC and RCS-C Profiles derive their data elements from the NCDR CathPCI 4.4 data dictionary there will be a considerable overlap in the data elements being captured and this should enable reuse and reduce the amount of data entry required to support the registry reporting. Note, CRC does not supply complete information for a RCS-S event.
2. The transaction or transactions for a submission period is transmitted to the clinical registry system.
3. The clinical registry (system) receives the RCS-C document for import and processing of the data. The discrete data elements will be extracted by the content consumer.

Post conditions

RCS-C data is added to the CathPCI registry database.

14.5 RCS-C Security Considerations

Security considerations are dealt with by the transport mechanism and are outside the scope of this content profile.

14.6 RCS-C Cross Profile Considerations

The RCS-C does not define behavior of Content Creators or Content Consumers within the context of workflow profiles.

Appendices

Appendix A - Actor Summary Definitions

None

Appendix B – Transaction Summary Definition

None

Volume 2 – Transactions

Not applicable

Volume 3 – Content Modules

5 Namespaces and Vocabularies

Code systems that have already been defined within the Technical Framework for this domain are included to support the supplement review.

Table 5-1: Referenced Code Systems

Code System Identifier (OID)	Code System Name	Description
2.16.840.1.113883.3.3478.6.1	ACC-Internal	An ACCF defined set of codes used to support concepts not properly supported within standard code systems.
2.16.840.1.113883.5.4	HL7 ActCode	An HL7 code system specifying the particular kind of Act that an Act-instance represents within its class.
2.16.840.1.113883.5.1	HL7 Administrative Gender	An HL7 code system specifying the gender of a person used for administrative purposes (as opposed to clinical gender).
2.16.840.1.113883.12.112	HL7 Discharge disposition	An HL7 code system indicating patient status as of the encounter end date.
2.16.840.1.113883.5.50	HL7 Ethnicity	An HL7 code system specifying two minimum ethnicity categories: Hispanic or Latino, and Not Hispanic or Latino.
2.16.840.1.113883.5.104	HL7 Race	An HL7 code system specifying five minimum race categories.
2.16.840.1.113883.5.1008	HL7NullFlavor	An HL7 code system specifying why a valid value is not present for an element in an instance.
2.16.840.1.113883.1.11.11526	Codes for the representation of names of languages -- Part 1: Alpha-2 code	An ISO code system providing two-characters for identifying human language used for communication.
2.16.840.1.113883.6.1	LOINC	Logical Observation Identifiers Names and Codes (LOINC)
2.16.840.1.113883.6.88	RxNorm	A US -specific terminology in medicine that contains all medications available on US market maintained by National Library of Medicine.
2.16.840.1.113883.6.96	SNOMED	The Systematized Nomenclature of Medicine (SNOMED).

The content profile does not include additional IHE Format codes, nor does it define additions to the HL7 ActCode or RoleCode Vocabularies.

The content profile includes OIDs used as the root portion of various identifier types. The OID assigned to each identifier type is summarized in the following table:

Table 5-2: Identifier Namespaces

Identifier Type OID	Identifier Type Name	Description
2.16.840.1.113883.3.3478.4.836	Participant Identifier, NCDR Registry Participant Identifier	Identifier of the participating Hospital assigned by NCDR
2.16.840.1.113883.4.6	Participant and procedure performer Identifier, National Provider Identifier	Identifier of the participating Healthcare organization and Healthcare practitioner assigned by Centers for Medicare & Medicaid Services (CMS)
2.16.840.1.113883.3.3478.4.839	Registry Submission Identifier	Identifier of the registry submission document as assigned by the Participating Hospital
2.16.840.1.113883.3.3478.4.840	Source System Provider Identifier	Identifier of the NCDR registry content report authoring system vendor as assigned by NCDR
2.16.840.1.113883.3.3478.4.841	Registry Identifier	Identifier of the receiving NCDR registry information system
2.16.840.1.113883.3.3478.4.842	Patient Identifier, NCDR	Identifier of the Patient as assigned by the authoring information system
2.16.840.1.113883.3.3478.4.843	Patient Identifier, Other	Identifier of the Patient as assigned by the participating hospital
2.16.840.1.113883.3.3478.4.844	Patient Identifier, HIC#	Identifier of the Patient as assigned by CMS
2.16.840.1.113883.3.3478.4.846	Lesion Identifier	Identifier of the lesion as assigned by the authoring information system
2.16.840.1.113883.4.1	Patient Identifier, SSN	Identifier of the Patient as assigned by the Social Security Administration
2.16.840.1.113883.3.3478.4.847	Source System Identifier	Identifier of the NCDR registry content report authoring information system as assigned by NCDR

6 Content Modules

6.5 Registry Content Submission

6.5.1 RCS-C Content Specification

This is the template (OID `1.3.6.1.4.1.19376.1.4.1.6.1.1`) to be used in reporting diagnostic catheterization and PCI procedures to the CathPCI V4.4 registry. The data element requirements are drawn from the CathPCI Registry version 4.4 Coder's Data Dictionary. This CDA document is not a direct specialization of any existing CDA document template ID.

6.5.1.1 Format Code

The XDSDocumentEntry format code for this content is urn:ihe:card:RCS-C:2014

The mapping of CDA header attributes to XDS metadata shall be identical to the XDS-MS mapping specified in PCC TF-2: 4.1.1.

6.5.1.2 Relationship to other IHE Cardiology Profiles

This RCS-C document is consistent with the existing content profiles and these consistencies include:

- Overall document structure
- Adherence to header, sections, and entry definitions whenever possible with most deviations kept to Value Sets.

6.5.1.3 Conventions

The following are the conventions used in this profile.

6.5.1.3.1 Conformance Terms

The definitions of the conformance verbs, the terms optional and required and the cardinality indicator are as defined in C-CDA Section 1.8 – Conformance Conventions.

6.5.1.3.1.1 Template Element Constraint Specifications

Conformance to the RCS-C with regard to usage of mandatory, required, and optional elements is determined by adherence to constraints specified in the templates. Each template is a collection of constraint statements that impose restrictions to the use of elements in the CDA Refined Message Information Model (RMIM).

For example, the *Procedure Session Observation Entry* template contains the following 12 constraints.

470 **Table 6.5.1.3.1.1-1: Template Entry example**

Procedure Session Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.50 (closed)]`

The Procedure Session Observation Entry captures clinical findings that are related to a procedure and typically occur during a procedure but may or may not include an intervention. Procedure Session Observation value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32880).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32881).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32876).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.50" (CONF:RCS-32882).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32883).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32874).
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10117) (CONF:RCS-32877).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32878).
    Note: Refer to the value set definition for the code system to be used.
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32879).
Note: Effective time may be valued to indicate the period of time within which a procedure observation was recorded.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32875).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32361).
    Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32884).
Note: The need for and type of the modifier observation is dependent on the value of the clinical observation code.

a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32885).
b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32886).
c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32887).
    i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32888).
    ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32889).
    iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32890).
    Note: The code value indicates the modifier type. The choice of data type and (for coded types) value set is dependent on the value within observation code. The relevant data type and potential value set is contained within the value set definition.
        1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10119) (CONF:RCS-32891).
        2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32892).
        Note: Refer to the value set definition for the code system to be used.
    iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32893).
    Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
        1. This value MAY contain zero or one [0..1] @nullFlavor="NAV" (CONF:RCS-32894).
        Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Each constraint includes a conformance verb. The conformance verbs SHALL, SHOULD, MAY, NEED NOT, SHOULD NOT, and SHALL NOT are to be interpreted as described in the HL7 Version 3 Publishing Facilitator's Guide.

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Table 6.5.1.3.1.1-2: HL7 V3 Verb Descriptions

Verb	Description
SHALL	An absolute requirement
SHALL NOT	An absolute prohibition against inclusion
SHOULD/SHOULD NOT	Best practice or recommendation There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course
MAY/NEED NOT	Truly optional can be included or omitted as the author decides with no implications

Each constraint also includes a cardinality expression:

- exactly one [1..1]
- zero or one [0..1]
- zero or more [0..*]

Each constraint targets a single CDA model element (i.e., attribute, attribute component, or traversal). The entry RIM class for a template is declared at the head of the template definition along with the template identifier and open/close designation.

Each constraint is assigned a unique conformance identifier (e.g., RCS-32882) that can be used to refer to the constraint.

Value constraints and conditional usage are governed by business rules expressed in RCS-C Vocabulary Constraints and NCDR CathPCI Registry Element Mapping are specified through value set binding.

Conformance statement RCS-3877 includes a value set binding for attribute Observation.code:

Table 6.5.1.3.1.1-3: Conformance Statement Example

4. **SHALL** contain exactly one [1..1] `code` (CONF:RCS-32874).
    a. This code **SHALL** contain exactly one [1..1] `@code` (ValueSet: Procedure Session Observation `1.3.6.1.4.1.19376.1.4.1.6.5.10117`) (CONF:RCS-32877).
    b. This code **SHALL** contain exactly one [1..1] `@codeSystem` (CONF:RCS-32878).
    Note: Refer to the value set definition for the code system to be used.

The **`@code`** component of the Observation.code attribute is bound to the *Procedure Session Observation* value set. The binding limits the allowable values for Observation.code to those enumerated in the *Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10117* value set.

Table 6.5.1.3.1.1-4: Value Set Example

Code	Code System	Preferred Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value List/Code)
311788003	SNOMED	Arterial Access Site	CD	VS:Arterial Access Site	
233970002	SNOMED	Coronary artery stenosis	PQ	UOM:%	Procedure Session Observation Modifier / 100000888
253727002	SNOMED	Variant dominance of coronary circulation	CD	VS:Dominance of the coronary anatomy	

Value set bindings to the Observation.code attribute also includes a declaration of the data type of the corresponding Observation.value attribute. Data Type declaration for Observation.value is specified in the column Value Data Type. If the Observation.value data type is PQ (Physical Quantity) then the value set specification will declare the applicable unit of measure (UOM) in the column Value Set Name / Unit of Measure. If the Observation.value data type is CD (Concept Descriptor) then the value set specification will declare the applicable value set for the coded Observation.value.

In some cases, a modifier code for a value set member will be present in the column Modifier Element to indicate that, in addition to the primary observation value, there is an additional modifier observation. In this case, the traversal to the modifier observation is treated as if its usage conformance was SHALL. For example, the code value “233970002” - Coronary Artery Stenosis in the *Procedure Session Observation* value set includes as a modifier element a reference to the code “10000088” Coronary Territory in the *Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10119* value set.

Table 6.5.1.3.1.1-5: Value Set Modifier Example

Code	Code System	Preferred Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value List/Code)
100000902	ACC-Internal	Bleeding Location	CD	VS:Bleeding Location	
100000888	ACC-Internal	Coronary Territory	CD	VS:Coronary Territory	
100000007	ACC-Internal	Hematoma Size	CD	VS:Hematoma Size	
17621005	SNOMED	Normal	BL		
NA	HL7NullFlavor	Not Applicable	BL		

This declaration renders the entryRelationship to the "modifying" observation as a **SHALL** and constrains the allowable value for the modifying Observation.code to "100000888". Consequently, the modifying Observation.value is constrained to a CD data type with values drawn from the Coronary Territory value set.

Business rules for conditional usage are also expressed in NCDR CathPCI Registry Element Mapping. Two flavors of conditionality are specified in the mapping table. In the first instance:

- An element usage constraint depends upon the value of a parent element

In the example, the element whose Seq no.=5335 and Name=IABP Timing, is conditioned by the value of the element Seq no.= 5330. In other words,

If IABP (Seq no.=5330) is "Yes", then IABP Timing (Seq no.=5335) is required.

The usage constraint of Should [0..1] is to be treated as **Shall** [1..1] when the condition is true, that is, when IABP (Seq no. 5330) has a value of "yes".

This form of conditional usage is identified by the presence of a value in the Parent ID column of the mapping table. The Parent ID column is a reference to the controlling element and the Parent Value column is the conditional value that determines the applicable usage constraint.

Table 6.5.1.3.1.1-6: NCDR CathPCI V4.4 Registry Element Mapping

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID
				Dx Cath	PCI	
5330	IABP			SHOULD (0..1)	SHOULD (0..1)	Procedure Entry
5335	IABP Timing	5330	Yes	(0..0)	SHOULD (0..1)	Procedure Observation Entry
5340	Other Mechanical Ventricular Support			SHOULD (0..1)	SHOULD (0..1)	Procedure Entry
5345	Other Mechanical Ventricular Support Timing	5340	Yes	(0..0)	SHOULD (0..1)	Procedure Observation Entry

he second instance of conditionality in the mapping table:

- *An entry in either of the Cardinality columns indicates the implied usage constraint for diagnostic only (Dx Cath), PCI only (PCI) or both procedures.*

Allowable values are **Shall** (1..1); **Should** (0..1); and (0..0). The entries **Shall** (1..1) and **Should** (0..1) are self-explanatory. The entry (0..0) indicates that there is no requirement for the

element. The element is expected to be omitted from the document instance and nullflavor is not required to explain its absence; equivalent to May (0..1).

6.5.1.3.2 Narrative Requirements

There is no general requirement for the section text narrative to completely contain the full coded content of all the elements of the section and its contained entries. Narrative text is not required by the CathPCI Registry. For this profile, section text is included as a formality. The coded content may not be an equivalent of the narrative.

6.5.1.3.3 Standards

The following table identifies the standards upon which this specification is based.

Table 6.5.1.3.3-1: Reference Standards

Standard Name (short)	Standard Name (full)	Reference to Published Standard
CathPCI Registry	NCDR CathPCI Registry V4.4 Coder's Data Dictionary	https://www.ncdr.com/WebNCDR/docs/public-data-collection-documents/cathpci_v4_codersdictionary_4-4.pdf?sfvrsn=2
CDAR2	HL7 CDA Release 2.0	http://www.hl7.org/documentcenter/private/standards/cda/r2/cda_r2_normativewebedition2010.zip
SNOMED CT	Systematized Nomenclature of Medicine – Clinical Terms	http://www.ihtsdo.org/snomed-ct/
LOINC	Logical Observation Identifiers Names and Codes	http://loinc.org/
RxNorm	RxNorm - normalized naming system for generic and branded drugs	http://www.nlm.nih.gov/research/umls/rxnorm/

6.5.1.3.4 Data types

The data types used throughout this specification are taken from the HL7 Version 3 Standard: Data types - Abstract Specification, Release 1. A full explanation of the data types can be found at http://www.hl7.org/implement/standards/product_brief.cfm?product_id=264. The table below provides a brief description for each of the data types referenced in this specification.

Table 6.5.1.3.4-1: Data types

Data Type	Name	Description
ANY	Any	A data type value that is included when the actual data type to be used is not known. The type is used for observation value, and, when it is used, the value set for the accompanying observation code indicates the data type to be used for observation value.

Data Type	Name	Description
BL	Boolean	An element whose allowable values are limited to True or False.
CD	Concept Descriptor	An element whose allowable values are taken from an associated value set. The Code data type includes a Code, Display Name, Code System Name, and Code System OID.
II	Instance Identifier	An element used to uniquely define an instance of an entity. The II data type includes a name space identified by @root and a unique value within the name space identified by @extension.
PQ	Physical Quantity	An element whose allowable values include a numeric quantity and a unit of measure
ST	Character String	An element whose allowable values consist of unstructured character data
TS	Point in Time	An element whose allowable values represents a points in time
IVL<TS>	Interval of point in time	An element whose allowable values represent an interval of time. The IVL<TS> data type includes @Low – start of time range; @Center – midpoint of time range; @Width – duration of time range, @high properties – end of time range.

6.5.1.3.5 Profile Template Documentation

The template description will include the template OID and its associated HL7 Reference Information Model CDA class as follows:

<Template name>

[<Class name>: templateId <template OID> (closed)]

6.5.2 RCS-C Document Template Containment

The following structure shows the RCS-C document template containment.

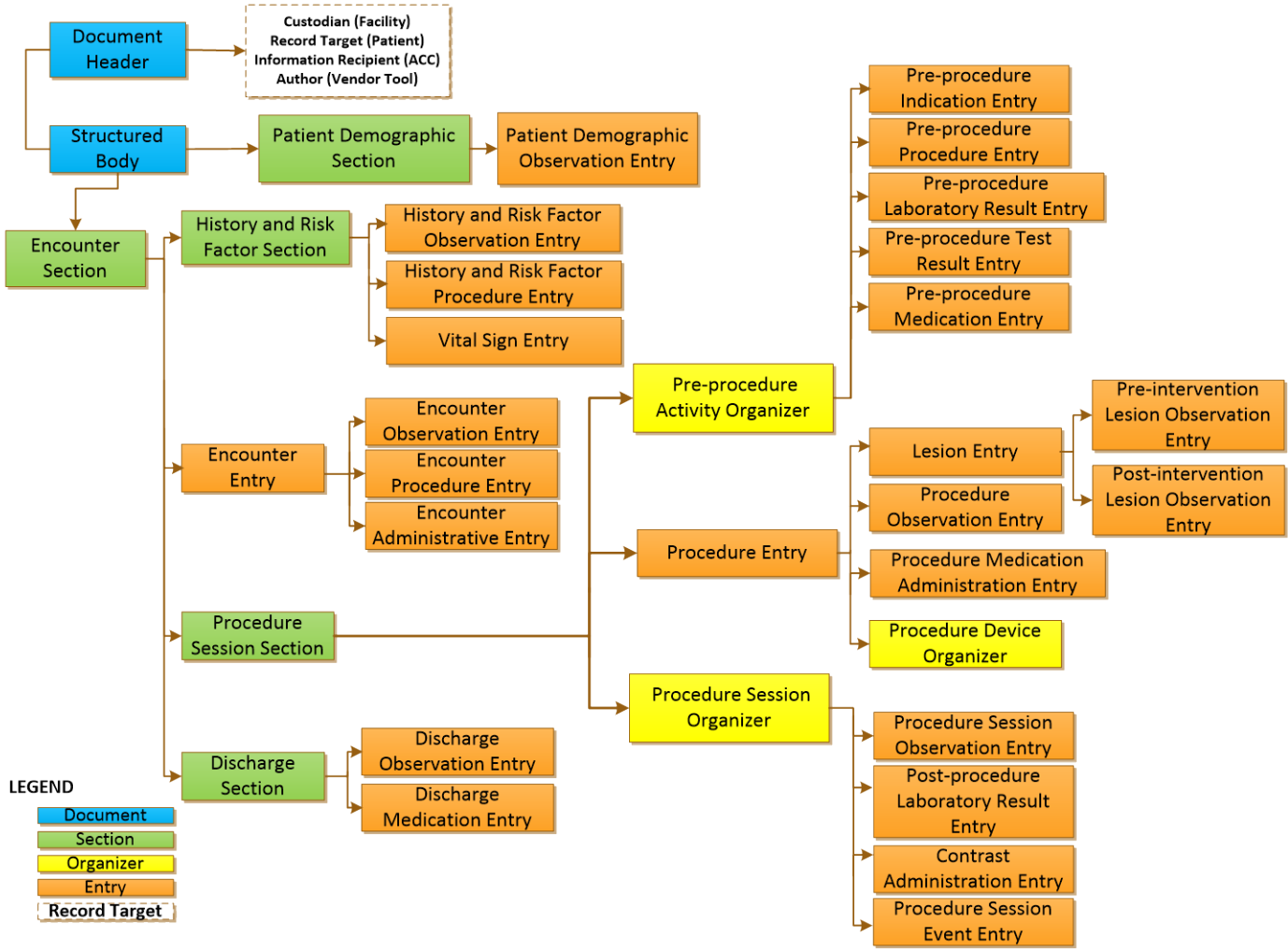

Figure 6.5.2-1 RCS-C Document Template Containment

6.5.3 RCS-C Template Body Containment

The following table shows all the template containments of RCS-C Profile.

Table 6.5.3-1: RCS-C Template Containments

Template Name	Cardinality	Type	Template OID
Registry Content Submission Document	1..1	Document	1.3.6.1.4.1.19376.1.4.1.6.1.1
Structured Body	1..1	Document	1.3.6.1.4.1.19376.1.4.1.6.3.69
Patient Demographic Section	1..1	Section	1.3.6.1.4.1.19376.1.4.1.6.2.33
Patient Demographic Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.34

Template Name	Cardinality	Type	Template OID
Encounter Section	1..*	Section	1.3.6.1.4.1.19376.1.4.1.6.2.2
History and Risk Factor Section	1..1	Section	1.3.6.1.4.1.19376.1.4.1.6.2.3
History and Risk Factor Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.14
History and Risk Factor Procedure Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.35
Vital Sign Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.62
Encounter Entry	1..1	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.12
Encounter Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.13
Encounter Procedure Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.53
Encounter Administrative Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.61
Procedure Session Section	1..*	Section	1.3.6.1.4.1.19376.1.4.1.6.2.4
Pre-procedure Activity Organizer	1..1	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.67
Pre-procedure Indication Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.52
Pre-procedure Procedure Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.36
Pre-procedure Laboratory Result Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.65
Pre-procedure Test Result Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.66
Pre-procedure Medication Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.23
Procedure Entry	1..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.39
Lesion Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.37
Pre-intervention Lesion Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.56
Post-intervention Lesion Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.58
Procedure Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.42
Procedure Medication Administration Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.45
Procedure Device Organizer	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.47
Procedure Session Organizer	1..1	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.68
Procedure Session Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.50
Contrast Administration Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.24
Procedure Session Event Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.63
Post-procedure Laboratory Result Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.64
Discharge Section	1..1	Section	1.3.6.1.4.1.19376.1.4.1.6.2.44
Discharge Observation Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.48
Discharge Medication Entry	0..*	Entry	1.3.6.1.4.1.19376.1.4.1.6.4.49

6.5.4 RCS–C Profile Templates

6.5.4.1 Registry Content Submission Document

`[ClinicalDocument: templateId 1.3.6.1.4.1.19376.1.4.1.6.1.1 (closed)]`

The Registry Report Document contains information related to the treatment provided to a single patient within a reference time period. The document header includes information needed for 1) the clinical document, 2) the associated patient, 3) the software processing the registry information - the document author, and 4) the facility that manages and is responsible for the contents of the document: the document custodian. The recordTarget patientRole of the header contains the most recent patient information for the referenced time period; excluding race and ethnicity, which is collected in Patient Demographic Section. Patient related information that could be different for different encounters, i.e., postal zip code is associated with the encounter.

The OID for the Registry Content Submission document type and the OID for the Registry Content Submission document header template are the same. The single OID identifies both the document type and the template that serves as the header for the document.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCCLIN" (CONF:RCS-1).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-2).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-4).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.1.1" (CONF:RCS-32265).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32583).
4. **SHALL** contain exactly one [1..1] **id** (CONF:RCS-5).
   Note: The identifier for the document is a GUID generated by the submitting facility.
    a. This id **SHALL** contain exactly one [1..1] **@root** (CONF:RCS-33600).
5. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-6).
    a. This code **SHALL** contain exactly one [1..1] **@code**="LOINC_1" Cath PCI Repository Report (CONF:RCS-32268).
       Note: A code that designates the type of clinical document.
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem=**"2.16.840.1.113883.6.1" (CONF:RCS-32505).
6. **SHALL** contain exactly one [1..1] **title**="Registry Content Submission-CathPCI" (CONF:RCS-32678).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:RCS-7).
   Note: The date/time of creation for this registry report document.
8. **SHALL** contain exactly one [1..1] **confidentialityCode**="N" Normal CodeSystem="2.16.840.1.113883.5.25" (CONF:RCS-32422).
9. **MAY** contain zero or one [0..1] **languageCode**.
   Note: The language used for text entries within the document.
    a. The languageCode, if present, **SHALL** contain exactly one [1..1] **@code**="EN" (CONF:RCS-32734).

b. The languageCode, if present, **SHALL** contain exactly one [1..1] **@codeSystem**="1.0.639.1" (CONF:RCS-32735).

10. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:RCS-32161).
    Note: The record target element contains information about the patient - the person who is the subject of one or more Diagnostic Catheterization and/or PCI procedure(s).
    a. This recordTarget **SHALL** contain exactly one [1..1] **@typeCode**="RCT" (CONF:RCS-32162).
    b. This recordTarget **SHALL** contain exactly one [1..1] **@contextControlCode**="OP" (CONF:RCS-32561).
    c. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:RCS-32163).
        i. This patientRole **SHALL** contain exactly one [1..1] **@classCode**="PAT" (CONF:RCS-32164).
        ii. This patientRole **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32175).
        Note: Patient Unique patient identifier (NCDRPatientID) assigned by the site.
            1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.842" (CONF:RCS-33014).
            2. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-32178).
            Note: The identifier value.
        iii. This patientRole **SHALL** contain exactly one [1..1] **id** (CONF:RCS-33015).
        Note: If the patient has a Social Security Number (SSN), then the id@extension will be populated with the SSN..
            1. This id **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33016).
            Note: If the patient does not have a US Social Security number, the null favor is to be coded as “NA” to indicate it. If patient identifier is masked, the value "MSK" is to be used.
            2. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.1" (CONF:RCS-33017).
            3. This id **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33018).
        iv. This patientRole **MAY** contain zero or one [0..1] **id** (CONF:RCS-33368).
        Note: An "other" ID provided for the patient. This will often be the identifier the patient is known by at the healthcare facility, i.e., the medical record number.
            1. The id, if present, **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33369).
            2. The id, if present, **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.843" (CONF:RCS-33370).

3. The id, if present, **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-33408).
   Note: The actual value for the identifier.

v. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:RCS-32165).
   1. This patient **SHALL** contain exactly one [1..1] **@classCode**="PSN" (CONF:RCS-32355).
   2. This patient **SHALL** contain exactly one [1..1] **@determinerCode**="INSTANCE" (CONF:RCS-32356).
   3. This patient **SHALL** contain exactly one [1..1] **name** (CONF:RCS-32166).
      Note: The patient name is recorded. If the submitting facility requires that PHI information be blinded, then the null flavor "MSK" is used.
      a. This name **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33020).
         Note: The null flavor may be valued; either to indicate that patient name is not available (NAV), or that it is masked (MSK)
      b. This name **SHOULD** contain zero or one [0..1] **family** (CONF:RCS-32167).
         Note: The last name (or surname) for the patient. The surname must be provided unless the patient's identity is masked.
      c. This name **SHOULD** contain [0..2] **given** (CONF:RCS-32168).
         Note: First and middle name - two given names - for the patient. The order of occurrence within the document determines which is the first name and which is the middle name, i.e., the first name is the first given name instance, while the middle name is the second instance. Given names should be provided, if available, unless the patient's identity is masked.
         i. The given, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32674).
            Note: Null flavor may be valued to indicate the absence of a first or middle name.
   4. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode**, which **SHALL** be selected from ValueSet Person Sex 1.3.6.1.4.1.19376.1.4.1.6.5.10078 (CONF:RCS-32170).
      Note: A record of the gender or sex of the patient. Indicates patient's sex at birth.
      a. This administrativeGenderCode **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33019).

5. This patient **SHALL** contain exactly one [1..1] **birthTime** (CONF:RCS-32171).

11. **SHALL** contain exactly one [1..1] **author** (CONF:RCS-32380).
Note: The author participation records information for the software product that created the registry report.
    a. This author **SHALL** contain exactly one [1..1] **@typeCode**="AUT" (CONF:RCS-32431).
    b. This author **SHALL** contain exactly one [1..1] **@contextControlCode**="OP" (CONF:RCS-32432).
    Note: The value "OP" (Over-riding Propagation) indicates that the author information provided applies to the entire document. The software product is recorded as the author for all sections of the document.
    c. This author **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:RCS-32381).
    Note: The author element is used to record the software product and version that is responsible for creation of this registry report.
        i. This assignedAuthor **SHALL** contain exactly one [1..1] **@classCode**="ASSIGNED" (CONF:RCS-33372).
        ii. This assignedAuthor **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32448).
        Note: An identifier for the authoring device; the product name and version number that identifies the software, which created the clinical document.
            1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.847" (CONF:RCS-32449).
            Note: OID to identify the vendor assigned Software Version.
            2. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-32450).
        iii. This assignedAuthor **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:RCS-32386).
        Note: Identifies the vendor responsible for the software authoring the clinical document.
            1. This representedOrganization **SHALL** contain exactly one [1..1] **@classCode**="ORG" (CONF:RCS-33393).
            2. This representedOrganization **SHALL** contain exactly one [1..1] **@determinerCode**="INSTANCE" (CONF:RCS-33394).
            3. This representedOrganization **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32451).
                a. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.840" (CONF:RCS-32452).
                Note: The NCDR assigned OID. It is an identifier but must be registered with NCDR

b. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-32453).

12. **SHALL** contain exactly one [1..1] **custodian** (CONF:RCS-32388).
Note: Indicates the facility where the patient encounter took place.
    a. This custodian **SHALL** contain exactly one [1..1] **@typeCode**="CST" (CONF:RCS-32562).
    b. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:RCS-32389).
        i. This assignedCustodian **SHALL** contain exactly one [1..1] **@classCode**="ASSIGNED" (CONF:RCS-32563).
        ii. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:RCS-32390).
            1. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **@classCode**="ORG" (CONF:RCS-33373).
            2. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **@determinerCode**="INSTANCE" (CONF:RCS-33374).
            3. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32391).
            Note: The Registry Participant Identifier assigned to the custodian organization (participating healthcare facility) by NCDR.
                a. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.836" (CONF:RCS-32676).
                b. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-32677).
            4. This representedCustodianOrganization **MAY** contain zero or one [0..1] **id** (CONF:RCS-33378).
            Note: The National Provider Identifier, assigned by the Centers for Medicare and Medicaid Services (CMS), is used to uniquely identify facilities for Medicare billing purposes. Use of the NPI is not relevant for non-US based providers.
                a. The id, if present, **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" (CONF:RCS-33379).
                b. The id, if present, **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-33380).
            5. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:RCS-32392).
            Note: The name of the custodian organization, i.e., the responsible healthcare provider.

13. **SHALL** contain exactly one [1..1] **informationRecipient** (CONF:RCS-32393).
Note: The information recipient participation is used to record information regarding the registry that the document is being sent to.
    a. This informationRecipient **SHALL** contain exactly one [1..1] **@typeCode**="PRCP" (CONF:RCS-32564).

b. This informationRecipient **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:RCS-32394).
   i. This intendedRecipient **SHALL** contain exactly one [1..1] **@classCode**="ASSIGNED" (CONF:RCS-32565).
   ii. This intendedRecipient **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32438).
   Note: Used to identify the registry that is to receive the document content.
      1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.841" (CONF:RCS-32439).
      2. This id **SHALL** contain exactly one [1..1] **@extension**="CathPCIV4.4" (CONF:RCS-32440).
      Note: The name - including version number - of the registry that is expected to receive the clinical document.

14. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:RCS-32454).
Note: Used to record the date range for a submission.
   a. This documentationOf **SHALL** contain exactly one [1..1] **@typeCode**="DOC" (CONF:RCS-32455).
   b. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:RCS-32456).
      i. This serviceEvent **SHALL** contain zero or one [0..1] **@classCode**="PCPR" (CONF:RCS-32457).
      ii. This serviceEvent **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32458).
      iii. This serviceEvent **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:RCS-32459).
      Note: Records the submission time frame that the clinical document falls within. Currently, submissions are provided on a quarterly basis. Therefore, it is expected that the start date of a submission will be the first day of a yearly quarter, and the end date will be the last day of the quarter.
         1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:RCS-33021).
         Note: The initial date of the submission time frame.
         2. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:RCS-33022).
         Note: The endpoint date of the submission time frame.

15. **SHALL** contain exactly one [1..1] **component** (CONF:RCS-31888).
Note: The document structured body contains the information for the registry report.
   a. This component **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-31889).
   b. This component **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32433).

845 a. This component **SHALL** contain exactly one [1..1] **Structured Body** (templateId:1.3.6.1.4.1.19376.1.4.1.6.3.69) (CONF:RCS-33409).

Table 6.5.4.1-1: Registry Content Submission Document Header

```
<?xml version="1.0"?>
<!--
Title: Sample Instance based CathPCI_v4_SampleTestCase1_PCIDxC.xml. It uses the UMTS
RCS-C Trial Implementation
Document and NCDR CathPCI form.
Specification: HL7 CDA R2
Copyright: (C) 2014 American College of Cardiology Foundation
-->
<ClinicalDocument
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="urn:hl7-org:v3"
    xmlns:sdtc="urn:hl7-org:sdtc" xsi:schemaLocation="urn:hl7-org:v3
../CDA_Schema_Files/infrastructure/cda/CDA_SDTC.xsd" classCode="DOCCLIN"
moodCode="EVN">
    <!-- ********************************************************
  CDA Header
******************************************************
-->
    <realmCode code="US"/>
    <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
    <templateId root="1.3.6.1.4.1.19376.1.4.1.6.1.1"/>
    <!-- conforms to the registry header constraint  -->
    <id root="2.16.840.1.113883.3.3478.4.839" extension="1"/>
    <!-- The Id for the document. Note, the OID indicates a namespace controlled by
    the document sender. -->
    <!-- CathPCI #1040  Xmsnid-->
    <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" code="LOINC_TBD"
    displayName="Registry Content Submission - Cath PCI"/>
    <title>RCS Cardiac Registry Report</title>
    <effectiveTime value="20140427"/>
    <!-- Date the document was created -->
    <confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>
    <!--Confidentiality is a contextual component of CDA, where the value expressed
    in the header holds true for the entire document, unless overridden by a nested
    value -->
    <languageCode code="en-US"/>
    <!--LanguageCode example with language and country-->
    <!--
    ******************************************************
    CDA Header: Participants
    ******************************************************
-->
    <recordTarget typeCode="RCT" contextControlCode="OP">
        <!--The record target indicates whose patient narrative report holds the
        documentation of this act.-->
        <patientRole classCode="PAT">
            <id root="2.16.840.1.113883.4.1" nullFlavor="NA"/>
            <!-- SSN  CathPCI # 2030, if Nullflavor CathPCI # 2031-->
            <id root="2.16.840.1.113883.3.3478.4.842" extension="666555"/>
            <!-- Patient ID CathPCI # 2040 -->
            <id root="2.16.840.1.113883.3.3478.4.843" extension="727"/>
            <!-- Other ID  CathPCI # 2045-->
```



```
            <patient classCode="PSN" determinerCode="INSTANCE">
                <name>
                    <family>Mansfield</family>
                    <!-- CathPCI # 2000-->
                    <given>Elisabeth</given>
                    <!-- CathPCI # 2010-->
                    <given>Kathleen</given>
                    <!-- CathPCI # 2020-->
                </name>
                <administrativeGenderCode code="F" displayName="Female"
                codeSystem="1.3.6.1.4.1.19376.1.4.1.6.10078" codeSystemName="Person
                Sex"/>
                <!-- CathPCI # 2060-->
                <birthTime value="19550924"/>
                <!-- CathPCI # 2050-->
            </patient>
        </patientRole>
    </recordTarget>
    <!--
    ************************************************************************
    CDA Header: The Author of the Patient Narrative Document
    ************************************************************************
  -->
    <author typeCode="AUT" contextControlCode="OP">
        <!-- Author information is carried in the header -->
        <time nullFlavor="NP"/>
        <assignedAuthor classCode="ASSIGNED">
            <id root="2.16.840.1.113883.3.3478.4.836" extension="1.0"/>
            <!-- CathPCI 1060 Record the device for formatting patient data to
            create registry report -->
            <representedOrganization classCode="ORG" determinerCode="INSTANCE">
                <id root="2.16.840.1.113883.3.3478.4.840" extension="ACC" />
                <!-- CathPCI 1050 Vendor Id -->
            </representedOrganization>
        </assignedAuthor>
    </author>
    <!--
    ************************************************************************
    CDA Header: The Custodian of the Patient Narrative Document
    ************************************************************************
-->
    <custodian nullFlavor="NP" typeCode="CST">
        <!-- Custodian information is carried in the header PRH -->
        <assignedCustodian classCode="ASSIGNED">
            <representedCustodianOrganization classCode="ORG"
            determinerCode="INSTANCE">
                <id root="2.16.840.1.113883.3.3478.4.836" extension="1234567891"/>
                <!-- CathPCI #  1000, 1016 NCDR Registry Participant Identifier-->
                <id root="2.16.840.1.113883.4.6" extension="1234567891"/>
                <!-- CathPCI # 1016  Participant National Provider Identifier-->
                <name>General Hospital</name>
                <!-- CathPCI # 1010 Healthcare Provider -->
            </representedCustodianOrganization>
        </assignedCustodian>
    </custodian>
```



```
    <!--
    ************************************************************************
    CDA Header: Receiving registry
    ************************************************************************
 -->
    <informationRecipient typeCode="PRCP">
        <intendedRecipient classCode="ASSIGNED">
            <id root="2.16.840.1.113883.3.3478.4.841" extension="ACC-NCDR-CathPCI
            4.4"/>
        </intendedRecipient>
    </informationRecipient>
    <!--
    ************************************************************************
    CDA Header: Service Type and Submission time frame
    ************************************************************************
-->
    <documentationOf typeCode="DOC">
        <serviceEvent classCode="PCPR" moodCode="EVN">
            <effectiveTime>
                <low value="20140101"/>
                <high value="20140331"/>
            </effectiveTime>
            <!-- CathPCI # 1020 Timeframe-->
        </serviceEvent>
    </documentationOf>
```

6.5.4.2 Registry Content Submission CathPCI V4.4 Body

`[structuredBody: templateId 1.3.6.1.4.1.19376.1.4.1.6.3.69 (closed)]`

The Structured Body contains the elements generated for the registry report. There may be multiple encounters within the body of the transmission if the patient is admitted to the facility multiple times during the quarter.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCBODY" (CONF:RCS-33565).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33566).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33567).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.3.69 " (CONF:RCS-33568).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33569).
4. **SHALL** contain exactly one [1..1] **component** (CONF:RCS-33523).
    a. This component **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33578).
    b. This component **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33579).

c. This component **SHALL** contain exactly one [1..1] **Patient Demographics Section** (templateId:1.3.6.1.4.1.19376.1.4.1.6.2.33) (CONF:RCS-33524).

5. **SHALL** contain at least one [1..*] **component** (CONF:RCS-33521).
   a. Such components **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33576).
   b. Such components **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33577).
   c. Such components **SHALL** contain exactly one [1..1] **Encounter Section** (templateId:1.3.6.1.4.1.19376.1.4.1.6.2.2) (CONF:RCS-33522).

Table 6.5.4.2-1: Structured Body

```
<component>
    <structuredBody classCode="DOCBODY" moodCode="EVN">
      <component>
      <!--
      ********************************************************
      Patient Demographics Section
      ********************************************************
-->
      </component>
      <component>
      <!--
      ********************************************************
      Encounter Section
      ********************************************************
-->
       </component>
    </structuredBody>
</component>
```

6.5.4.2.1 Patient Demographic Section

[section: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.33 (closed)]

The Patient Demographic Section is used to record patient information that is not fully supported, i.e., does not allow for multiple values of ethnicity within the document header. The section contains ethnicity and multiple values for races. These data elements should be consistent for a patient within a document, however, may change depending on how the information is reported by the patient.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCSECT" (CONF:RCS-32413).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32414).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32415).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.33" (CONF:RCS-32536).

b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32579).

4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32404).
   Note: A code value that identifies the section type.
   a. This code **SHALL** contain exactly one [1..1] **@code**="LOINC_33" (CONF:RCS-32607).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.1"** (CONF:RCS-32608).
5. **SHALL** contain exactly one [1..1] **text**="Refer to Section entries." (CONF:RCS-33364).
6. **SHOULD** contain zero or more [0..*] **entry** (CONF:RCS-32409).
   a. The entry, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32469).
   b. The entry, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32470).
   c. The entry, if present, **SHALL** contain exactly one [1..1] **Patient Demographic Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.34) (CONF:RCS-32471).

Table 6.5.4.2.1-1: Patient Demographic Section

```
<component>
    <section>
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.2.33"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
        code="LOINC_TBD_33" displayName="Refer to Section entries."/>
        <title>Patient Demographic</title>
        <text>
            Patient Demographic
        </text>
        <entry typeCode="COMP" contextConductionInd="true">
        <!--
        ********************************************************
        Patient Demographic Observation Entry:
        ********************************************************
-->
       </entry>
     </section>
</component>
```

6.5.4.2.1.1 Patient Demographic Observation Entry

[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.34 (closed)]

The Patient Demographic Observation Entry records demographic information about the patient, which is not supported within the document header. The Patient Demographic Observation value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32416).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32417).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32418).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.34 " (CONF:RCS-32568).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32574).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32407).
   Note: The code value indicates the type of information being recorded.
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10101) (CONF:RCS-32516).
       Note: The code indicates the type of information being recorded.
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32517).
       Note: Refer to the value set definition for the code system to be used.
5. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32408).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32537).
       Note: The null flavor may be valued to indicate the lack of information regarding the patient demographics item.

Table 6.5.4.2.1.1-1: Patient Demographic Observation Entry

```
<entry>
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.34"/>
        <code codeSystem="2.16.840.1.113883.6.96" code="103579009"
         codeSystemName="SNOMED" displayName="Race"/>
        <value xsi:type="CD" code="2054-5" codeSystem="2.16.840.1.113883.5.104"
         codeSystemName="Race" displayName="Black or African American"/>
    </observation>
</entry>
<!-- CathPCI # 2071 -->
<entry typeCode="COMP" contextConductionInd="true">
     <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.34"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="397731000" displayName="Ethnicity"/>
        <value xsi:type="CD" code="2186-5" codeSystem="2.16.840.1.113883.5.50"
         codeSystemName="HL7 Ethnicity" displayName="Not Hispanic or Latino"/>
    </observation>
</entry>
<!-- CathPCI # 2076  -->
```

6.5.4.2.2 Encounter Section

`[section: templateId 1.3.6.1.4.1.19376.1.4.1.6.2.2 (closed)]`

The Encounter Section captures an “episode of care” (encounter) for the patient. The episode may include an inpatient stay or an outpatient visit – in some cases a diagnostic catheterization is performed during an outpatient visit. Each episode is initiated by admission or registration of the patient to the facility and is ended by a discharge from the facility. (Note, for outpatient visits, the “discharge” date is the same as the date of arrival.) Since the RCS-C covers the treatment a patient receives during a defined time period, such as quarter 1 or quarter 2, there may be multiple encounter sections within a document. All encounters whose discharge date falls within a submission period are to be included within the clinical document. Each encounter that is included within a submission represents a single episode of care during which the patient has one or more visits to the catheterization lab where an eligible procedure was performed. A lab visit will involve one or more procedures.

The Encounter Section includes an encounter entry that contains the admission/discharge information and other summary level information about the encounter. This section also includes component sections that will capture information about patient history and risk factors, procedure sessions in which one or more relevant procedures are performed, and patient discharge information.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCSECT" (CONF:RCS-32009).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32010).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-31861).

a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.2.2" (CONF:RCS-31862).
b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32581).

4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32182).
   a. This code **SHALL** contain exactly one [1..1] **@code**="46240-8" (CONF:RCS-32273).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.1"** (CONF:RCS-32567).
5. **SHALL** contain exactly one [1..1] **text**="Refer to Section entries." (CONF:RCS-33361).
6. **SHALL** contain exactly one [1..1] **component** (CONF:RCS-32427).
   Note: The component section records history and risk factor information that is collected upon initiation of the patient encounter.
   a. This component **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32952).
   b. This component **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32441).
   c. This component **SHALL** contain exactly one [1..1] **History and Risk Factor Section** (templateId:1.3.6.1.4.1.19376.1.4.1.6.2.3) (CONF:RCS-32428).
7. **SHALL** contain exactly one [1..1] **entry** (CONF:RCS-31865).
   Note: The entry records information for the encounter.
   a. This entry **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32005).
   b. This entry **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32506).
   c. This entry **SHALL** contain exactly one [1..1] **Encounter Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.12) (CONF:RCS-31914).
8. **SHALL** contain at least one [1..*] **component** (CONF:RCS-32429).
   Note: Each component section collects information for a single visit to the catheterization laboratory (procedure session).
   a. Such components **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32953).
   b. Such components **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32442).
   c. Such components **SHALL** contain exactly one [1..1] **Procedure Session Section** (templateId:1.3.6.1.4.1.19376.1.4.1.6.2.4) (CONF:RCS-32430).
9. **SHALL** contain exactly one [1..1] **component** (CONF:RCS-32684).
   Note: The component section includes information that is collected at discharge, or – for outpatients – at the end of the visit.
   a. This component **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32685).

b. This component **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32686).
c. This component **SHALL** contain exactly one [1..1] Discharge Section (templateId:1.3.6.1.4.1.19376.1.4.1.6.2.44) (CONF:RCS-32687).

Table 6.5.4.2.2-1: Encounter Section

```
<component>
    <section>
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.2.2"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="46240-8" displayName="Care Episode"/>
        <title>Encounter</title>
        <text>
            Encounter
        </text>
        <--!
        ********************************************************
        Encounter Entry:
        ********************************************************
-->
         <entry>
           <encounter classCode="ENC" moodCode="EVN">
              <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.12"/>
              <effectiveTime>
                 <low value="201401270500"/>
                 <!-- CathPCI # 3000, 3001-->
                 <high value="20140203"/>
                 <!-- CathPCI # 9035 -->
              </effectiveTime>
               <entry typeCode="COMP" contextConductionInd="true">
               <--!
               ********************************************************
               Encounter Administrative Entry:
               ********************************************************
-->            </entry>
              <entry typeCode="COMP" contextConductionInd="true">
               <--!
              ********************************************************
              Encounter Observation Entry:
               ********************************************************
-->           </entry>
              <entry typeCode="COMP" contextConductionInd="true">
               <--!
               ********************************************************
               Encounter Procedure Entry:
               ********************************************************
-->            </entry>
           </encounter>
         </entry>
         <component>
          <--!
          ********************************************************
          History and Risk Factors Section
          ********************************************************
-->
         </component>
         <component>
          <--!
          ********************************************************
```



```
          Procedure Session Section
          ******************************************************
-->
         </component>
         <component>
          <--!
          ******************************************************
          Discharge Section
          ******************************************************
-->
          </component>
   </section>
</component>
```

6.5.4.2.2.1 History and Risk Factor Section

`[section: templateId 1.3.6.1.4.1.19376.1.4.1.6.2.3 (closed)]`

The History and Risk Factor Section includes an observation entry, a procedure entry and a vital sign entry. The observation entry contains specific data elements related to the patient's past medical history and risk factors for coronary artery disease. Specific data elements include the presence or absence of prior history of a myocardial infarction, peripheral artery disease, diabetes mellitus, chronic lung disease and a history of dialysis and cerebral vascular accidents. The Procedure Entry contains past procedures, e.g., PCI, CABG or vascular surgery. The Vital Sign Entry has two data elements: height and weight.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCSECT" (CONF:RCS-32011).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32012).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-39).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.2.3" (CONF:RCS-40).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32580).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32183).
    a. This code **SHALL** contain exactly one [1..1] **@code**="11348-0" (CONF:RCS-32277).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.1"** (CONF:RCS-32667).
5. **SHALL** contain exactly one [1..1] **text**="Refer to Section entries" (CONF:RCS-33365).
6. **SHOULD** contain zero or more [0..*] **entry** (CONF:RCS-32203).
   Note: The entry captures information on relevant observations of the patient's medical history. Submitters are expected to provide an entry for each possible value. See NCDR CathPCI Registry Element Mapping for the mapping between CathPCI Registry V4.4 dictionary element and the RCS-C content Profile element.
    a. The entry, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32360).

b. The entry, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32443).

c. The entry, if present, **SHALL** contain exactly one [1..1] **History and Risk Factor Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.14) (CONF:RCS-32204).

7. **SHOULD** contain zero or more [0..*] **entry** (CONF:RCS-32508).
Note: The entry captures information on relevant procedures in the patient's medical history. Submitters are expected to provide an entry for each possible value.

a. The entry, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32509).

b. The entry, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32510).

c. The entry, if present, **SHALL** contain exactly one [1..1] **History and Risk Factor Procedure Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.35) (CONF:RCS-32511).

8. **SHOULD** contain zero or more [0..*] **entry** (CONF:RCS-33550).
Note: The entry captures information on patient vital signs such as height and weight. Submitters are expected to provide an entry for each possible value.

a. The entry, if present**,** SHALL contain exactly one [1..1] **Vital Sign Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.62) (CONF:RCS-33551).

Table 6.5.4.2.2.1-1: History and Risk Factor Section

```
<component>
    <section>
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.2.3"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="11348-0" displayName="History and Risk Factor"/>
        <title>History and Risk Factor</title>
        <text>
            History and Risk Factor
         </text>
       <entry typeCode="COMP" contextConductionInd="true">
       <--!
       ********************************************************
       History and Risk Factor Observation Entry:
       ********************************************************
-->
       </entry>
       <entry typeCode="COMP" contextConductionInd="true">
       <--!
       ********************************************************
       Vital Sign Entry:
       ********************************************************
-->
       </entry>
       <entry typeCode="COMP" contextConductionInd="true">
       <--!
       ********************************************************
       History and Risk Factor Observation Procedure Entry
       ********************************************************
-->
     </entry>
    </section>
</component>
```

6.5.4.2.2.1.1 History and Risk Factor Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.14 (closed)]`

The History and Risk Factor Observation Entry captures relevant clinical findings drawn from the patient's medical history and risk factors for coronary artery disease. Observations include the recording of diseases and other indications within particular time periods. The History and Risk Factor Observation value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32020).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32021).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32247).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.14" (CONF:RCS-32254).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32362).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-31989).

a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-32304).
b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33125). Note: Refer to the value set definition for the code system to be used.

5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-31990).
Note: Effective time may be valued to indicate the period of time within which a history or risk factor item occurred.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-31991).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33126).
Note: The null flavor may be valued to indicate the lack of information regarding the observation.

Table 6.5.4.2.2.1.1-1: History and Risk Factor Observation Entry

```
<entry typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.14"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="77176002" displayName="Current/Recent Smoker (w/in 1 year)"/>
        <value xsi:type="BL" value="true"/>
    </observation>
</entry>
<!-- CathPCI.4000-->
<entry typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.14"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="38341003" displayName="Hypertension"/>
        <value xsi:type="BL" value="true"/>
    </observation>
</entry>
<!-- CathPCI.4005-->
<entry typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.14"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="370992007" displayName="Dyslipidemia"/>
        <value xsi:type="BL" value="true"/>
    </observation>
</entry>
<!-- CathPCI.4010-->
```


6.5.4.2.2.1.2 History and Risk Factor Procedure Entry

`[procedure: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.35 (closed)]`

The History and Risk Factor Procedure Entry indicates whether or not the procedure has been performed within a patient's medical history, including a past history of a PCI or coronary artery bypass graft surgery.

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:RCS-32493).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32494).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-32498).
   Note: Value the negation indicator to note whether or not the specified procedure is part of the patient's medical history. A negation indicator value = "false" provides notification that the procedure did take place, while negation indicator = "true" is a notification that the procedure did not take place.
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32492).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.35" (CONF:RCS-32497).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32575).
5. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32491).
   Note: A coded value that identifies the type of procedure recorded within the medical history.
   a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: History and Risk Factor Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10095) (CONF:RCS-32495).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32499).
      Note: Refer to the value set definition for the code system to be used.
6. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32496).
   Note: The date of performance may be recorded if available.

Table 6.5.4.2.2.1.2-1: History and Risk Factor Procedure Entry

```
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="true">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.35"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="73544002" displayName="Prior Valve Surgery/Procedure"/>
    </procedure>
</entry>
<!-- CathPCI.4030-->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="true">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.35"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="415070008" displayName="Prior PCI"/>
        <effectiveTime value="20130328"/>
    </procedure>
</entry>
<!-- CathPCI.4035, 4040-->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.35"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="232717009" displayName="Prior CABG"/>
        <effectiveTime value="20100505"/>
    </procedure>
</entry>
<!-- CathPCI.4045, 4050-->
```

6.5.4.2.2.1.3 Vital Sign Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.62 (closed)]`

The Vital Sign Entry captures relevant vital signs during the encounter, specifically height and weight. The Vital Signs value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33463).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33464).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33458).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.62" (CONF:RCS-33465).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33466).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33456).
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Vital Sign 1.3.6.1.4.1.19376.1.4.1.6.5.11540) (CONF:RCS-33459).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33460).
    Note: Refer to the value set definition for the code system to be used.

5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33461).
   Note: Effective time may be valued to indicate the period of time within which a vital sign was recorded.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33457).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
   a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33462).
      Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.

Table 6.5.4.2.2.1.3-1: Vital Sign Entry

```
<entry typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.62"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="8302-2" displayName="Height"/>
        <value xsi:type="PQ" unit="CM" value="175"/>
    </observation>
</entry>
<!-- CathPCI.4055  -->
<entry typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.62"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="3141-9" displayName="Weight"/>
        <value xsi:type="PQ" unit="Kg" value="57"/>
    </observation>
</entry>
<!-- CathPCI.4060 -->
```

6.5.4.2.2.2 Encounter Entry

[encounter: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.12 (closed)]

The Encounter Entry includes information associated with the patient encounter during which the cardiac catheterization or PCI procedure occurred. Included in this section is the arrival to the healthcare facility date and time and the discharge date.

1. **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CONF:RCS-32119).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32120).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-31867).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.12" (CONF:RCS-31868).

b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32577).

4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:RCS-32424).
   Note: Arrival and discharge information for the encounter.
   a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:RCS-32425).
      Note: The arrival date and time to the healthcare facility for the patient.
   b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:RCS-32426).
      Note: The discharge date for the patient.
5. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-31973).
   Note: The included observations provide additional information for the patient stay.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32152).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32513).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Encounter Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.13) (CONF:RCS-31974).
6. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33044).
   Note: The included procedures provide information for relevant procedures performed during the stay, which are not associated with a particular procedure session.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33045).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33046).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Encounter Procedure Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.53) (CONF:RCS-33047).
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33527).
   Note: The included observations provide additional information for the patient stay.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33580).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33581).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Encounter Administrative Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.61) (CONF:RCS-33528).

Table 6.5.4.2.2.2-1: Encounter Entry

```
<entry>
    <encounter classCode="ENC" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.12"/>
        <effectiveTime>
            <low value="201401270500"/>
            <!-- CathPCI # 3000, 3001-->
            <high value="20140203"/>
            <!-- CathPCI # 9035 -->
        </effectiveTime>
        <entry typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Encounter Administrative Entry:
        ********************************************************
-->
        </entry>
        <entry typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Encounter Observation Entry:
        ********************************************************
-->
        </entry>
        <entry typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Encounter Procedure Entry:
        ********************************************************
-->
        </entry>
    </encounter>
</entry>
```

6.5.4.2.2.2.1 Encounter Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.13 (closed)]`

The Encounter Observation Entry is used to record observations that are directly associated with the patient encounter, and not linked to a procedure session or to an individual procedure. The Encounter Observation value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32001).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32002).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32249).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.13" (CONF:RCS-32321).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32570).

4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32003).
   Note: The code value indicates the type of encounter observation.
   a. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Encounter Observation `1.3.6.1.4.1.19376.1.4.1.6.5.10090` (CONF:RCS-32322).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32535).
      Note: Refer to the value set definition for the code system to be used.
5. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32004).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
   a. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-32673).
      Note: Null flavor may be valued to indicate that no information is available for the specified observation type.

Table 6.5.4.2.2.2.1-1: Encounter Observation Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.13"/>
        <code code="250908004" codeSystem="2.16.840.1.113883.6.96"
         codeSystemName="SNOMED" displayName="LVEF"/>
        <value xsi:type="INT" value="35"/>
    </observation>
</entryRelationship>
<!-- CathPCI.9030 -->
```

6.5.4.2.2.2.2 Encounter Procedure Entry

`[procedure: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.53 (closed)]`

The Encounter Procedure Entry is used to record procedures that are directly associated with the patient encounter and not linked to a procedure session or to an individual procedure. The Encounter Procedure value set defines the set of expected procedure types.

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:RCS-33029).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33030).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-33032).
   Note: This attribute is used to indicate whether the procedure was performed during the encounter. A “false” value indicates that the patient underwent the procedure and a “true” indicates the procedure did not occur.
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33024).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.53" (CONF:RCS-33027).

b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33028).

5. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33023).
   Note: A coded value that identifies the type of procedure being recorded.
   a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Encounter Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10130) (CONF:RCS-33025).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33026).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33031).
   Note: Procedure date and time.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33033).
   Note: The association supports the inclusion of one or more modifier observations that contain additional information related to the procedure. Whether or not presence of the modifying observation is relevant is specified using metadata included with the Encounter Procedure value set.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33034).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33035).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33036).
      i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33037).
      ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33038).
      iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33039).
      Note: The code value indicates the type of modifier observation.
         1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Encounter Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10131) (CONF:RCS-33040).
         2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33041).
      iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33042).
      Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
         1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33043).
         Note: The null flavor may be valued to indicate the lack of information regarding the observation type.

Table 6.5.4.2.2.2.2-1: Encounter Procedure Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.53"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="232717009" displayName="CABG"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code code="272125009" codeSystem="2.16.840.1.113883.6.96"
                 codeSystemName="SNOMED" displayName="Priority"/>
                <value xsi:type="CD" code="103391001"
                 codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 displayName="Urgent"/>
            </observation>
        </entryRelationship>
    </procedure>
</entryRelationship>
```

6.5.4.2.2.2.3 Encounter Administrative Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.61 (closed)]`

The Encounter Administrative Entry is used to record administrative information related to the encounter such as admission source, insurance payor, patient, postal zip code etc. The Encounter Administrative value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33492).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33493).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33491).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.61" (CONF:RCS-33497).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33498).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33489).
   Note: The code value indicates the type of encounter observation.
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.11531) (CONF:RCS-33494).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33495).
       Note: Refer to the value set definition for the code system to be used.
5. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33490).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

a. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33496). Note: Null flavor may be valued to indicate that no information is available for the specified observation type.

Table 6.5.4.2.2.2.3-1: Encounter Administrative Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.61"/>
        <code code="100000887" codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" displayName="Patient Zip Code"/>
        <value xsi:type="ST">"10000"</value>
    </observation>
</entryRelationship>
<!-- CathPCI # 3005  -->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.61"/>
        <code code="100000800" codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" displayName="Admit Source"/>
        <value xsi:type="ST">"ED"</value>
    </observation>
</entryRelationship>
<!-- CathPCI # 3030  -->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.61"/>
        <code codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" code="100000885" displayName="Hospital
         Status"/>
        <value xsi:type="CD" code="100000542"
         codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" displayName="Outpatient converted to
         Inpatient"/>
    </observation>
</entryRelationship>
<!-- CathPCI 9065  -->
```

6.5.4.2.2.3 Procedure Session Section

`[section: templateId 1.3.6.1.4.1.19376.1.4.1.6.2.4 (closed)]`

The Procedure Session Section focuses on the relevant information for patients who undergo a diagnostic catheterization or percutaneous coronary intervention. The information that is collected includes data elements that are directly related to the procedure and includes the location, indications and operator for the procedure. The Procedure Session Section captures information from a single session within the catheterization laboratory during which either a diagnostic cath, an intervention, or both are performed. A patient may have multiple procedure sessions within a single encounter.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCSECT" (CONF:RCS-32022).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32023).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-31878).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.2.4" (CONF:RCS-31879).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32578).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32185).
    a. This code **SHALL** contain exactly one [1..1] **@code**="LOINC_4" (CONF:RCS-32282).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.1"** (CONF:RCS-32668).
5. **SHALL** contain exactly one [1..1] **text**="Refer to Section entries" (CONF:RCS-33363).
6. **SHOULD** contain zero or more [0..1] **entry** (CONF:RCS-33530).
    a. The entry, if present, **SHALL** contain exactly one [1..1] **Pre-procedure Activity Organizer** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.67) (CONF:RCS-33531).
7. **SHALL** contain one or more [1..*] **entry** (CONF:RCS-32921).
    a. The entry, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32922).
    b. The entry, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32923).
    c. The entry, if present, **SHALL** contain exactly one [1..1] **Procedure Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.39) (CONF:RCS-33048).
8. **SHOULD** contain zero or more [0..1] **entry** (CONF:RCS-32895).
   Note: The entries contain information for observations that are recorded during the procedure session, but are not directly attributable to a specific procedure performed within the session.
    a. The entry, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32896).
    b. The entry, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32897).
    c. The entry, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32898).
    d. The entry, if present, **SHALL** contain exactly one [1..1] **Procedure Session Organizer** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.68) (CONF:RCS-33529).

Table 6.5.4.2.2.3-1: Procedure Session Section

```
<component>
    <section>
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.2.4"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="LOINC_4" displayName="Procedure Session"/>
        <title>Procedure Session</title>
        <text>
            Procedure Session
         </text>
         <--!
         *******************************************************
         Pre-procedure Activity Organizer
         *******************************************************
-->
         <entry typeCode="COMP" contextConductionInd="true">
            <organizer classCode="CLUSTER" moodCode="EVN">
               <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.67"/>
               <statusCode nullFlavor="NI"/>
               <effectiveTime>
                    <low value="201401270520"/>
               </effectiveTime>
               <!--  CathPCI # 5300/5301 -->
               <component typeCode="COMP" contextConductionInd="true">
                <--!
                *******************************************************
                Pre-procedure Indication Entry
                *******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                *******************************************************
                Pre-Procedure Procedure Entry
                *******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                *******************************************************
                Pre-Procedure Laboratory Result Entry
                *******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                *******************************************************
                Pre-Procedure Test Result Entry
                *******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                *******************************************************
```



```
                Pre-Procedure Medication Entry
                ******************************************************
-->
                </component >
            </organizer>
        </entry>
        <--!
        ******************************************************
        Procedure Session Organizer
        ******************************************************
-->
        <entry typeCode="COMP" contextConductionInd="true">
            <organizer classCode="CLUSTER" moodCode="EVN">
               <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.68"/>
               <statusCode nullFlavor="NI"/>
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                ******************************************************
                Procedure Session Observation Entry
                ******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                ******************************************************
                Post Procedure Laboratory Result Entry
                ******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                ******************************************************
                Procedure Session Event Entry
                ******************************************************
-->
                </component >
                <component typeCode="COMP" contextConductionInd="true">
                <--!
                ******************************************************
                Contrast Administration
                ******************************************************
-->
                </component >
            </organizer>
        </entry>
        <entry typeCode=”COMP” contextConductionInd=”true”?
        <--!
        ******************************************************
        Procedure Entry
        ******************************************************
-->
        </entry>
    </section>
</component>
```


6.5.4.2.2.3.1 Pre-procedure Activity Organizer

[organizer: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.67 (closed)]

The Pre-procedure Activity Organizer encompasses all elements of care that occur during a defined time period prior to the procedure. Included in the organizer are the pre-procedure indications, procedures, lab results, test results and medications that occur prior to the procedure session. The procedure data and time is included in the organizer.

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" (CONF:RCS-33552).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33553).
3. **SHALL** contain exactly one [1..1] **statusCode** (CONF:RCS-33601).
   Note: A status code value is required by the CDA schema.
   a. This statusCode **SHALL** contain exactly one [1..1] **@nullFlavor**="NI" (CONF:RCS-33602).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33554).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.67" (CONF:RCS-33555).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33571).
5. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33532).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33582).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33583).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Pre-procedure Indication Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.52) (CONF:RCS-33533).
6. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33540).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33590).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33591).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Pre-procedure Procedure Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.36) (CONF:RCS-33541).
7. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33534).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33584).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33585).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Pre-procedure Laboratory Result Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.65) (CONF:RCS-33535).
8. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33536).

a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33586).
b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33587).
c. The component, if present, **SHALL** contain exactly one [1..1] **Pre-procedure Test Result Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.66) (CONF:RCS-33537).

9. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33538).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33588).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33589).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Pre-procedure Medication Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.23) (CONF:RCS-33539).

Table 6.5.4.2.2.3.1-1: Pre-procedure Activity Organizer

```
<entry typeCode="COMP" contextConductionInd="true">
    <organizer classCode="CLUSTER" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.67"/>
        <statusCode nullFlavor="NI"/>
        <effectiveTime>
            <low value="201401270520"/>
        </effectiveTime>
        <!--  CathPCI # 5300/5301 -->
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        *********************************************************
        Pre-procedure Indication Entry
        *********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        *********************************************************
        Pre-procedure Procedure Entry
        *********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        *********************************************************
        Pre-Procedure Laboratory Result Entry
        *********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        *********************************************************
        Pre-Procedure Test Result Entry
        *********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        *********************************************************
        Pre-Procedure Medication Entry
        *********************************************************
-->
        </component >
     </organizer>
</entry>
```


6.5.4.2.2.3.1.1 Pre-procedure Indication Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.52 (closed)]`

The Pre-procedure Indication Entry captures relevant observations collected prior to the procedure session as a component of the clinical evaluation. The Pre-procedure Indication value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32993).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32994).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32982).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.52 " (CONF:RCS-32990).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32991).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32980).
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.10122) (CONF:RCS-32987).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32988).
    Note: Refer to the value set definition for the code system to be used.
5. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32992).
Note: If applicable, effective time should be valued to indicate the onset date for an observation, or the relevant effective date for a clinical observation.
    a. The effectiveTime, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33146).
    Note: NEEDS REVISION: Null flavor may be valued to indicate that the relevant date is not known.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32981).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32989).
    Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32983).
Note: The clinical observation modifier provides additional information for the clinical observation. The presence and type of the modifier observation is dependent on the value of observation code.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32995).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32996).

c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32984).
    i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32997).
    ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32998).
    iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32985).
    Note: The code value indicates the modifier type.
        1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-procedure Indication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10123) (CONF:RCS-32999).
        2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33000).
    iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32986).
    Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
        1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33001).
        Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.1.1-1: Pre-procedure Indication Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="53741008" displayName="Coronary Artery Disease"/>
        <effectiveTime value="201401262300"/>
        <value xsi:type="BL" value="true"/>
        <!-- CathPCI # 5005, 5006 -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" code="100000876"
                 displayName="Effective Time Estimated"/>
                <value xsi:type="BL" value="true"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI # 5007  -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
                 Internal" code="100000501" displayName="Presentation"/>
                <value xsi:type="CD" code="401303003"
                 codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 displayName="STEMI (7 days)"/>
            </observation>
        </entryRelationship>
    </observation>
</component>
<!-- CathPCI # 5000 -->
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="134438001" displayName="Canadian Cardiovascular Society
         Classification
         of Angina"/>
        <value xsi:type="CD" code="85284003" codeSystem="2.16.840.1.113883.6.96"
         codeSystemName="SNOMED" displayName="Angina, class III"/>
    </observation>
</component>
<!-- CathPCI # 5020  -->
```

6.5.4.2.2.3.1.2 Pre-procedure Procedure Entry

`[procedure: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.36 (closed)]`

The Pre-Procedure Procedure Entry contains procedures that take place prior to the diagnostic cath or PCI, specifically, Thrombolytics and a Pre-operative exam.

1. **SHALL** contain exactly one [1..1] **`@classCode`**="`PROC`" (CONF:RCS-32053).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32054).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-32436).
   Note: Value the negation indicator to note whether or not the specified procedure was recorded as part of the pre-procedure clinical evaluation.

   A negation indicator value = "false" provides notification that the procedure did take place, while negation indicator = "true" is a notification that the procedure did not take place.
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32256).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.36" (CONF:RCS-32314).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32571).
5. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32055).
   Note: A coded value that identifies the type of procedure.
   a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-procedure Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10104) (CONF:RCS-32315).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem**".16.840.1.113883.6.96" (CONF:RCS-32500).
      Note: Refer to the value set definition for the code system to be used.
6. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32056).
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32540).
   Note: The entry must be valued if needed to provide qualifying information regarding the procedure. Whether or not additional information is needed depends on the value of procedure code. The identity of any required modifier observations is defined within the Pre-procedure Procedure value set.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32541).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32542).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32704).
      Note: The modifier observation contains additional information for the procedure. The presence and type of modifier depends on the value of procedure code.
      i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32705).
      ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32706).
      iii. This observation **SHALL** contain exactly one [1..1] **code** (ValueSet: Pre-procedure Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10105) (CONF:RCS-32707).
      Note: The observation code value indicates the type of modifier.

1. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32708).

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32709).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32710).
Note: Null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.1.2-1: Pre-procedure Procedure Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.36"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
          code="307521008" displayName="Thrombolytic"/>
        <effectiveTime value="201303140200"/>
        <!-- CathPCI # 5015, 5016 -->
    </procedure>
</component>
<!-- CathPCI #5010 -->
```

6.5.4.2.2.3.1.3 Pre-procedure Laboratory Result Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.65 (closed)]`

The Pre-Procedure Laboratory Result Entry captures relevant laboratory tests collected prior to a procedure. The Pre-procedure Laboratory Result value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33431).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33432).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33412).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.65" (CONF:RCS-33421).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33422).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33410).
    a. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.11533 (CONF:RCS-33418).

b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33419).
Note: Refer to the value set definition for the code system to be used.

5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33417).
Note: If applicable, effective time should be valued to indicate the date time when a Lab test was performed.
   a. The effectiveTime, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33430).
   Note: Null flavor may be valued to indicate that the relevant date is not known.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33411).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
   a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33420).
   Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33413).
Note: The presence and type of the modifier observation is dependent on the value of observation code.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33428).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33429).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33414).
      i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33426).
      ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33427).
      iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33415).
      Note: The code value indicates the modifier type.
         1. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Laboratory Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11537 (CONF:RCS-33423).
         2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33424).
      iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33416).
      Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the

observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33425).
   Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.1.3-1: Pre-procedure Laboratory Result Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.65"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
          code="13969-1" displayName="CKMB"/>
        <value xsi:type="REAL" value="15"/>
    </observation>
</component>
<!-- CathPCI # 7300 -->
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.65"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
          code="10839-9" displayName="Troponin I"/>
        <value xsi:type="PQ" value="4.5"/>
    </observation>
</component>
<!-- CathPCI # 7305 -->
```

6.5.4.2.2.3.1.4 Pre-procedure Test Result Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.66 (closed)]`

The Pre-procedure Test Result Entry captures relevant test results, such as stress Tests and cardiac tests, which are collected prior to the procedure. The Pre-Procedure Test Result value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33454).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33455).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33435).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.66" (CONF:RCS-33444).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33445).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33433).
   a. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.11534 (CONF:RCS-33441).

b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33442).
Note: Refer to the value set definition for the code system to be used.

5. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33440).
Note: Depending on the observation type, effective time should be valued to indicate the effective time of the test.
   a. The effectiveTime, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33453).
   Note: Null flavor may be valued to indicate that the relevant date is not known.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33434).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
   a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33443).
   Note: The null flavor may be valued to indicate the lack of information regarding the clinical finding.
7. **SHOULD** contain zero or one [0..*] **entryRelationship** (CONF:RCS-33436).
Note: The presence and type of the modifier observation is dependent on the value of observation code.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33451).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33452).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33437).
      i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33449).
      ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33450).
      iii. This observation **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11535 (CONF:RCS-33438).
      Note: The code value indicates the modifier type.
         1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11535) (CONF:RCS-33446).
         2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33447).
      iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33439).
      Note: The observation value. The data type for observation value has

been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33448).
   Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.1.4-1: Pre-procedure Test Result Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.66"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
          code="18107-3" displayName="Stress Echocardiogram"/>
        <value xsi:type="BL" value="true"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1"
                  codeSystemName="ACC-Internal" code="100000854"
                  displayName="Stress Test Result"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96"
                codeSystemName="SNOMED" code="103329007" displayName="Unavailable"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI # 5211 Not Positive result -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1"
                  codeSystemName="ACC-Internal" code="100000855"
                   displayName="Risk/Extent of Ischemia"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" code="100000640"
                 displayName="Indeterminate"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI # 5212 -->
    </observation>
</component>
<!-- CathPCI # 5240 -->
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.66"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="450360000" displayName="Coronary Calcium Score"/>
        <value xsi:type="BL" value="true"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1"
                  codeSystemName="ACC-Internal" code="100000647"
                  displayName="Calcium Score"/>
                <value xsi:type="INT" value="105"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI # 5251 -->
    </observation>
</component>
<!-- CathPCI # 5250 -->
```


6.5.4.2.2.3.1.5 Pre-procedure Medication Entry

[substanceAdministration: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.23 (closed)]

The Pre-procedure Medication Entry provides information on any medications taken by the patient prior to the procedure; a timeframe determined by the NCDR specification. The Pre-procedure Medication value set defines the set of possible medication types, specifically, anti-anginal medications.

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CONF:RCS-32093).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32094).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-32534).
   Note: The negation indicator is valued to indicate whether or not a specified medicine has been given. A negation indicator value = "false" provides notification that the substance administration did take place, while negation indicator = "true" is a notification that the substance administration did not take place.
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32255).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.23" (CONF:RCS-32954).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32572).
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32095).
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:RCS-32139).
   a. This consumable **SHALL** contain exactly one [1..1] **@typeCode**="CSM" (CONF:RCS-32140).
   b. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:RCS-32141).
      i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CONF:RCS-32142).
      ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:RCS-32143).
         1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@classCode**="MMAT" (CONF:RCS-32144).
         2. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" (CONF:RCS-32145).
         3. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32146).
            Note: The code value identifies the medication taken by the patient prior to the procedure.
            a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-procedureMedication 1.3.6.1.4.1.19376.1.4.1.6.5.10103) (CONF:RCS-32310).
            b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32504).

Note: Refer to the value set definition for the code system to be used.

Table 6.5.4.2.2.3.1.5-1: Pre-procedure Medication Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.23"/>
        <consumable typeCode="CSM">
            <manufacturedProduct classCode="MANU">
                <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
                    <code codeSystem="2.16.840.1.113883.3.3478.6.1"
                     codeSystemName="ACC-Internal" code="100000652"
                     displayName="Anti-Anginal Medication"/>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
    </substanceAdministration>
</component>
<!-- CathPCI # 5025 -->
<component typeCode="COMP" contextConductionInd="true">
    <substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.23"/>
        <consumable typeCode="CSM">
            <manufacturedProduct>
                <manufacturedMaterial>
                    <code codeSystem="2.16.840.1.113883.6.96"
                     codeSystemName="SNOMED" code="48698004"
                      displayName="Ca Channel Blockers"/>
                    <!-- CathPCI # 5027 -->
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
    </substanceAdministration>
</component>
<!-- CathPCI # 5027 -->
```

6.5.4.2.2.3.2 Procedure Entry

`[procedure: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.39 (closed)]`

The Procedure Entry contains the two procedures pertinent to the CathPCI Registry: the diagnostic cardiac catheterization and the percutaneous intervention. In addition, it includes other procedures that may be performed in conjunction with the two primary procedures, such as left heart catheterization, fluoroscopy and mechanical support devices.

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:RCS-32594).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32595).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-33009).
   Note: Value the negation indicator to note whether the specified procedure is present.

A negation indicator value = "false" provides notification that the procedure did take place, while negation indicator = "true" is a notification that the procedure did not take place.

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32593).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.39" (CONF:RCS-32598).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32629).
5. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32592).
   Note: The code identifies the type for the procedure.
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10136) (CONF:RCS-32596).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32630).
6. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33398).
   Note: The date/time interval (low/high) or duration (width) that the procedure occurred.
    a. The effectiveTime, if present, **MAY** contain exactly one [1..1] **low** (CONF:RCS-33400).
    b. The effectiveTime, if present, **MAY** contain zero or one [0..1] **width** (CONF:RCS-33401).
    c. The effectiveTime, if present, **MAY** contain zero or one [0..1] **high** (CONF:RCS-33402).
7. **SHOULD** contain zero or one [0..1] **performer** (CONF:RCS-32130).
   Operator information is collected for PCI and Diagnostic catheterization procedures. If different physicians perform the Cath and PCI, then the respective doctor would be listed in each procedure.
    a. The performer, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33147).
       Note: Null flavor may be valued to indicate that, for a procedure in which operator information is expected, it is not available.
    b. The performer, if present, **SHALL** contain exactly one [1..1] **@typeCode**="PRF" (CONF:RCS-32131).
    c. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:RCS-32132).
        i. This assignedEntity **SHALL** contain exactly one [1..1] **@classCode**="ASSIGNED" (CONF:RCS-32133).
        ii. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32134).
            Note: The identifier assigned to the procedure performer. This will normally be - in the United States - an NPI.
            1. This id **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33083).

2. This id **SHALL** contain exactly one [1..1] **@root** (CONF:RCS-32632).
Note: An OID that identifies the namespace for the ID. In the US, the NPI (OID = 2.16.840.1.113883.4.6) will be used.
3. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-32633).
Note: The operator identifier.

iii. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:RCS-32135).
1. This assignedPerson **SHALL** contain exactly one [1..1] **@classCode**="PSN" (CONF:RCS-32136).
2. This assignedPerson **SHALL** contain exactly one [1..1] **@determinerCode**="INSTANCE" (CONF:RCS-32137).
3. This assignedPerson **SHALL** contain exactly one [1..1] **name** (CONF:RCS-32138).
Note: A name for the procedure performer.
a. This name **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33084).
b. This name **SHALL** contain exactly one [1..1] **family** (CONF:RCS-32316).
Note: The last name (or surname) for the operator.
c. This name **SHALL** contain at least one and not more than 2 **given** names (CONF:RCS-32317).
Note: First and middle name - two given names - for the patient. The order of occurrence within the document determines which is the first name and which is the middle name. The first name is the first given name instance, while the middle name is the second instance.
i. **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32945).
Note: Null flavor may be valued to indicate the absence of a first or middle name.

8. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32812).
Note: There may be information for lesions treated during the procedure. There will be lesion information captured for each lesion that is treated. This information is only relevant to PCI procedure.
a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32813).
b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32814).
c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Lesion Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.37) (CONF:RCS-32815).

9. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32730).
   Note: Procedure Observation Entry provides relevant information related to the procedure. The presence and type of observations for the procedure is determined by the value of procedure code.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32731).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32732).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Procedure Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.42) (CONF:RCS-32733).
10. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33010).
    Note: The association records medication provided 24 hours prior to and during the procedure. This capability must be supported to properly manage procedures for which medication information is relevant.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33011).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33012).
    c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Procedure Medication Administration Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.45) (CONF:RCS-33013).
11. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32816).
    Note: The entry relationship records the devices used during the procedure. This information must be supported for recording PCI and closure procedures; that is, those procedures in which device information is collected. The organizer entry is used to track the procedure and closure devices.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32817).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33145).
    c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **sequenceNumber** (CONF:RCS-33397).
    Note: A counter that starts at one and is incremented by one for each device used within the procedure. The counter value is reset to one for each Closure or PCI procedure performed.
    d. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Procedure Device Organizer** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.47) (CONF:RCS-32819).
12. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33085).
    Note: Depending on the type of procedure, it may be necessary to record component procedures.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33086).

b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33087).
c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **procedure** (CONF:RCS-33088).
i. This procedure **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:RCS-33127).
ii. This procedure **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33128).
iii. This procedure **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-33399).
Note: Value the negation indicator to note whether or not the specified procedure is present.
A negation indicator value = "false" provides notification that the procedure did take place, while negation indicator = "true" is a notification that the procedure did not take place.
iv. This procedure **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33129).
Note: The code value identifiers the procedure type.
1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Component Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10128) (CONF:RCS-33130).
2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33131).

13. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33132).
Note: Depending on the type of procedure, it may be relevant to capture recommendations for follow-up procedures to be carried out.
a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33133).
b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33134).
c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **procedure** (CONF:RCS-33135).
Note: A treatment recommended as a result of the performed procedure. This information is collected if the procedure is a diagnostic catheterization..
i. This procedure **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:RCS-33136).
ii. This procedure **SHALL** contain exactly one [1..1] **@moodCode**="PRP" (CONF:RCS-33137).
iii. This procedure **MAY** contain zero or one [0..1] **@negationInd** (CONF:RCS-33395).
iv. This procedure **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33138).
Note: The code value identifies the recommended procedure.

1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Diagnostic Catheterization Recommendation `1.3.6.1.4.1.19376.1.4.1.6.5.10099`) (CONF:RCS-33139).
2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33140).

Table 6.5.4.2.2.3.2-1: Procedure Entry

```
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.39"/>
        <code code="41976001" codeSystem="2.16.840.1.113883.6.96"
         codeSystemName="SNOMED" displayName="Diagnostic Cath"/>
        <performer typeCode="PRF">
            <assignedEntity classCode="ASSIGNED">
                <id root="2.16.840.1.113883.4.6" extension="123456789"/>
                <!-- CathPCI # 6015 -->
                <assignedPerson classCode="PSN" determinerCode="INSTANCE">
                    <name>
                        <given>Joe</given>
                        <family>Jackson</family>
                        <!-- CathPCI # 6000, 6005, 6010 -->
                    </name>
                </assignedPerson>
            </assignedEntity>
        </performer>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <procedure classCode="PROC" moodCode="EVN" negationInd="false">
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="67629009" displayName="Left Hear Cath"/>
            </procedure>
        </entryRelationship>
        <!-- CathPCI # 6025 -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="272125009" displayName="Status"/>
                <value xsi:type="CD" code="103391001"
                 codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 displayName="Urgent"/>
            </observation>
        </entryRelationship>
        <!--  CathPCI # 6040 -->
    </procedure>
</entry>
<!--  CathPCI # 5310 -->
<!--  All associated with Diagnostic Cath -->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.39"/>
        <code codeSystem="2.16.840.1.113883.5.1008" codeSystemName="HL7NullFlavor"
         code="OTH" displayName="Other Procedure (in conj w/Dx Cath or PCI)"/>
    </procedure>
</entry>
<!--  CathPCI # 5315 -->
<!--  All associated with Other Procedure -->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.39"/>
        <code code="446996006" codeSystem="2.16.840.1.113883.6.96"
```



```
         codeSystemName="SNOMED" displayName="Dosage of radiation exposure"/>
        <effectiveTime>
            <width value="30" unit="min"/>
        </effectiveTime>
        <!--  CathPCI # 5321 -->
    </procedure>
</entry>
<!--  CathPCI # 5320 -->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.39"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="399217008" displayName="IABP"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.42"/>
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="7389001" displayName="Timeframe"/>
                <value xsi:type="CD" code="100000322"
                 codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
                 Internal" displayName="Inserted after PCI has begun"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI #  5335  -->
    </procedure>
</entry>
<!--  CathPCI # 5330 -->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.39"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="112695004" displayName="Closure Procedure"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <sequenceNumber value="1"/>
            <organizer classCode="CLUSTER" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.42"/>
                <statusCode nullFlavor="NI"/>
                <participant typeCode="DEV">
                    <participantRole>
                        <playingDevice classCode="DEV" determinerCode="INSTANCE">
                            <code code="9" codeSystemName="ACC-Closure Device"
                             codeSystem="2.16.840.1.113883.3.3478.6.3"
                             displayName="Perclose ProGlide Abbott Laboratories-
                             Suture "/>
                        </playingDevice>
                    </participantRole>
                </participant>
            </organizer>
        </entryRelationship>
    </procedure>
</entry>
<!--  CathPCI # 5355, 5356 -->
<entry typeCode="COMP" contextConductionInd="true">
    <procedure classCode="PROC" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.39"/>
```



```
        <code code="415070008" codeSystem="2.16.840.1.113883.6.96"
         codeSystemName="SNOMED" displayName="PCI"/>
        <!--  CathPCI # 5305 -->
        <performer typeCode="PRF">
            <assignedEntity classCode="ASSIGNED">
                <id root="2.16.840.1.113883.4.6" extension="123456789"/>
                <!-- CathPCI # 7015 -->
                <assignedPerson classCode="PSN" determinerCode="INSTANCE">
                    <name>
                        <given>Joe</given>
                        <family>Jackson</family>
                        <!-- CathPCI # 7000, 7005-->
                    </name>
                </assignedPerson>
            </assignedEntity>
        </performer>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="250908004" displayName="Pre-PCI LVEF"/>
                <value xsi:type="PQ" value="40"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI # 7025  -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
                <code codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
                 Internal" code="100000880" displayName="PCI Indication"/>
                <value xsi:type="CD" code="100000572"
                 codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
                 Internal" displayName="PCI for STEMI (Stable, >12 hrs from Sx
                 onset)"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI # 7035 -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.42"/>
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="272125009" displayName="Status"/>
                <value xsi:type="CD" code="103391001"
                 codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 displayName="Urgent"/>
            </observation>
        </entryRelationship>
        <!--  CathPCI # 7020 -->
        <entryRelationship typeCode=”COMP” contextConductionInd=”true”>
        <!--
        ********************************************************
         Lesion Entry
        ********************************************************
-->
        </entryRelationship
```



```
        <entryRelationship typeCode="COMP" contextConductionInd="true">
        <!--
        ********************************************************
        Procedure Device Entry
        ********************************************************
-->
        </entryRelationship>        <entryRelationship typeCode="COMP"
contextConductionInd="true">
        <!--
        ********************************************************
        Procedure Medication Administration Entry
        ********************************************************
-->
      </entryRelationship>
    </procedure>
</entry>
```

6.5.4.2.2.3.2.1 Lesion Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.37 (closed)]`

The Lesion Entry captures relevant observations and procedures recorded for a particular lesion treated during a PCI procedure. Examples of data elements included are the lesion location, pre and post stenosis, pre and post timi flow. The reader should note: a) multiple target sites may be collected for a lesion to address the location of a lesion that spans multiple coronary segments. There may also be multiple lesions recorded at a given target site. b) the devices used on each lesion are also recorded. Each lesion treated by a particular device is recorded as part of the device information.

The template is listed as conditionally present because lesion information must be collected if a PCI procedure is performed. It is not collected for other procedures.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33074).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33075).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33063).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.37" (CONF:RCS-33072).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33073).
4. **SHALL** contain exactly one [1..1] **id** (CONF:RCS-33094).
   Note: The identifier is assigned to the lesion so that it is possible to record which device or devices treated it during the course of a PCI procedure. A sequence number or other unique identifying scheme may be used.
    a. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.846" (CONF:RCS-33095).
    b. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-33406).
       Note: The identifier is assigned by the sender to uniquely identify the lesion.

5. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33061).
   Note: The code value indicates the type of clinical disorder, that it is a lesion.
   a. This code **SHALL** contain exactly one [1..1] **@code**="364636000" (CONF:RCS-33069).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" SNOMED (CONF:RCS-33070).
6. **SHALL** contain at least one [1..*] **targetSiteCode** (CONF:RCS-33068).
   Note: One or more coronary locations at which the disorder (lesion) is present.
   a. Such targetSiteCodes **SHALL** contain exactly one [1..1] **@code** (ValueSet: Coronary Segment 1.3.6.1.4.1.19376.1.4.1.6.5.10034) (CONF:RCS-33081).
   b. Such targetSiteCodes **SHALL** contain exactly one [1..1] **@codeSystem**
      Note: refer to the value set definition for the code system to be used.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33064).
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33076).
   b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33077).
   c. The entryRelationship, if present, **SHALL** contain at least one [1..*] **Pre-intervention Lesion Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.56) (CONF:RCS-33065).
8. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33183).
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33184).
   b. The entryRelationship, if present, **MAY** contain zero or one [0..1] **@contextConductionInd**="true" (CONF:RCS-33185).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Post-intervention Lesion Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.58) (CONF:RCS-33186).
9. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33336).
   Note: There may be procedures applied to the lesion. The set of possible procedure types is recorded within the Lesion Procedure value set.
   a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33337).
   b. The entryRelationship, if present, **SHALL NOT** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33338).
   c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **procedure** (CONF:RCS-33339).
      Note: A procedure that is performed as part of the lesion treatment.
      i. This procedure **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:RCS-33340).
      ii. This procedure **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33384).

iii. This procedure **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-33341).
Note: Value the negation indicator to note whether or not the specified procedure has been performed on the lesion. A negation indicator value = "false" provides notification that the procedure did take place, while negation indicator = "true" is a notification that the procedure did not take place.

iv. This procedure **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33342).
Note: The code value indicates the type of treatment.
    1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Lesion Procedure `1.3.6.1.4.1.19376.1.4.1.6.5.10116`) (CONF:RCS-33343).
    2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33344).
    Note: Refer to the value set definition for the code system to be used.

v. This procedure **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33345).
Note: There may be additional information that is collected as a result of the lesion procedure. Depending on the type of procedure being recorded, it may be necessary to capture additional information. The need for such modifier observations depends on the value of procedure code and is defined within the Lesion Procedure value set.
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33346).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33347).
    3. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33348).
        a. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33349).
        b. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33350).
        c. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33351).
        Note: The code value indicates the modifier type.
            i. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Lesion Procedure Modifier `1.3.6.1.4.1.19376.1.4.1.6.5.10121`) (CONF:RCS-33352).
            ii. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33353).
            Note: Refer to the value set definition for the code system to be used.

d. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33354).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    i. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33355).
    Note: The null flavor may be valued to indicate the lack of information regarding the observation type.

Table 6.5.4.2.2.3.2.1-1: Lesion Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.37"/>
        <id root="2.16.840.1.113883.3.3478.4.846" extension="1"/>
        <!-- CathPCI.7100  Unique identifier for the Lesion. Refers to Lesion
         counter in NCDR registry -->
        <code code="364636000" codeSystem="2.16.840.1.113883.6.96"
         codeSystemName="SNOMED" displayName="Lesion observable"/>
        <targetSiteCode code="100000543" displayName="First diagonal branch segment
         - 1st Diag" codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
         Internal"/>
        <!-- CathPCI.7105 -->
       <entryRelationship typeCode=”COMP” contextConductionInd=”true”>
       <--!
       ********************************************************
       Pre-Intervention Lesion Observation Entry
       ********************************************************
-->
        </entryRelationship>
        <entryRelationship typeCode=”COMP” contextConductionInd=”true”>
        <--!
        ********************************************************
        Post-Intervention Lesion Observation Entry
        ********************************************************
-->
        <--!
        ********************************************************
        Lesion # 2
        ********************************************************
-->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.37"/>
                <id root="2.16.840.1.113883.3.3478.4.846" extension="2"/>
                <!-- CathPCI.7100  Unique identifier for the Lesion. Refers to
                 Lesion counter in NCDR registry -->
                <code code="364636000" codeSystem="2.16.840.1.113883.6.96"
                 codeSystemName="SNOMED" displayName="Lesion"/>
                <targetSiteCode code="91748002"
                 displayName="Mid-LAD artery segment - mLAD"
                 codeSystem="2.16.840.1.113883.6.96"
                 codeSystemName="SNOMED"/>
                <targetSiteCode code="91751009" displayName="Second diagonal
                 Branch segment - 2nd Diag" codeSystem="2.16.840.1.113883.6.96"
                 codeSystemName="SNOMED"/>
                <!-- CathPCI.7105 -->
            </observation>
        </entryRelationship>
    </entryRelationship>
</observation>
```


6.5.4.2.2.3.2.1.1 Pre-intervention Lesion Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.56 (closed)]`

The Pre-Intervention Lesion Observation Entry includes those observations recorded prior to the PCI intervention. The Pre-Intervention Lesion Observation value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33241).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33242).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33199).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.56" (CONF:RCS-33223).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33224).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33198).
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10135) (CONF:RCS-33221).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33222).
    Note: Refer to the value set definition for the code system to be used.
5. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33334).
    Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33335).
6. **SHOULD** contain zero or one [0..*] **entryRelationship** (CONF:RCS-33200).
    Note: Depending on the type of observation being recorded, it may be necessary to capture additional information for the observation. The need for such modifier observations depends on the value of clinical observation code, and is documented within the Pre-Intervention Lesion Observation value set.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33237).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33238).
    c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33201).
        i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33228).
        ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33229).
        iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33202).

1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Pre-Intervention Lesion Observation Modifier `1.3.6.1.4.1.19376.1.4.1.6.5.10132`) (CONF:RCS-33225).
2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33226).
   Note: Refer to the value set definition for the code system to be used.

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33203).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33227).
   Note: Null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.2.1.1-1: Pre-intervention Lesion Observation Entry

```
<entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.56"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="371895000" displayName="Culprit Lesion"/>
        <value xsi:type="BL" value="true"/>
    </observation>
</entryRelationship>
<!-- CathPCI.7110-->
<entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.56"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="233970002" displayName="Coronary artery stenosis"/>
        <value xsi:type="PQ" value="85"/>
    </observation>
</entryRelationship>
<!-- CathPCI.7115-->
```

6.5.4.2.2.3.2.1.2 Post-intervention Lesion Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.58 (closed)]`

The Post-intervention Lesion Observation Entry captures relevant observations recorded for a lesion treated during a cardiac procedure. The entry includes clinical findings recorded after the PCI intervention. The Post-Intervention Lesion Observation value set defines the set of expected observation types. This includes the post intervention stenosis.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33308).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33309).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33266).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.58" (CONF:RCS-33290).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33291).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33265).
   Note: The code value indicates the type of clinical observation.
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Post-intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10138) (CONF:RCS-33288).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33289).
       Note: Refer to the value set definition for the code system to be used.
5. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33332).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33333).
       Note: Null flavor may be valued to indicate lack of information regarding the observation.

Table 6.5.4.2.2.3.2.1.2-1: Post-intervention Lesion Observation Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.58"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="233970002" displayName="Coronary artery stenosis"/>
        <value xsi:type="INT" value="20"/>
    </observation>
</entryRelationship>
<!--CathPCI.7210-->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.58"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="25103009" displayName="TIMI Flow Finding"/>
        <value xsi:type="CE" code="371864007" codeSystem="2.16.840.1.113883.6.96"
         codeSystemName="SNOMED" displayName="TIMI grade 3:  partial perfusion"/>
    </observation>
</entryRelationship>
<!-- CathPCI.7215  -->
```


6.5.4.2.2.3.2.2 Procedure Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.42 (closed)]`

The Procedure Observation Entry collects observations that are associated with, or are the result of, a particular procedure. The Procedure Observation value set defines the set of expected observation types.

The template is listed as conditionally present because observations are only collected for certain procedures performed during the procedure session. In particular, there are several clinical findings that are required when either PCI or diagnostic catheterization are performed.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32714).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32715).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32713).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.42" (CONF:RCS-32719).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32777).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32711).
   Note: The code value indicates the type of the clinical observation. See NCDR CathPCI Registry Element Mapping for the mapping between CathPCI Registry V4.4 dictionary element and the RCS-C Content Profile element.
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32717).
       Note: Refer to the value set definition for the code system to be used.
5. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33148).
   Note: The effective time captures the onset date or other relevant date for the clinical observation. The need for an effective time is dependent on the value of observation code as defined within the value set specification.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32712).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32718).
       Note: Null flavor may be valued to indicate that no information is available for the specified observation type.

Table 6.5.4.2.2.3.2.2-1: Procedure Observation Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="250908004" displayName="Pre-PCI LVEF"/>
        <value xsi:type="PQ" value="40"/>
    </observation>
</entryRelationship>
<!-- CathPCI # 7025  -->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.52"/>
        <code codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" code="100000880"
         displayName="PCI Indication"/>
        <value xsi:type="CD" code="100000572"
         codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" displayName="PCI for STEMI
         (Stable, >12 hrs from Sx onset)"/>
    </observation>
</entryRelationship>
<!-- CathPCI # 7035 -->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.42"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="272125009" displayName="Status"/>
        <value xsi:type="CD" code="103391001"
         codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         displayName="Urgent"/>
    </observation>
</entryRelationship>
<!--  CathPCI # 7020 -->
```

6.5.4.2.2.3.2.3 Procedure Medication Administration Entry

`[substanceAdministration: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.45 (closed)]`

The Procedure Medication Administration Entry contains information on medications administered or within 24 hours of the procedure.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="SBADM"` (CONF:RCS-32736).
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` (CONF:RCS-32737).
3. **SHALL** contain exactly one [1..1] **`@negationInd`** (CONF:RCS-32738).
   Note: The negation indicator is used to record whether or not the medication was administered. A negation indicator value = "false" provides notification that the substance administration did take place, while negation indicator = "true" is a notification that the substance administration did not take place.
4. **SHALL** contain exactly one [1..1] **`templateId`** (CONF:RCS-32974).

a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.45" (CONF:RCS-32975).
b. This templateId **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-32976).

5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33149).
Note: The date and time, or time interval for the substance administration may be collected.
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:RCS-32742).
    a. This consumable **SHALL** contain exactly one [1..1] **@typeCode**="CSM" (CONF:RCS-32743).
    b. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:RCS-32744).
        i. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:RCS-32745).
            1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@classCode**="MMAT" (CONF:RCS-33391).
            2. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" (CONF:RCS-33392).
            3. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32746).
            Note: The code value identifies the medication provided to the patient during or prior to the procedure.
                a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.10053) (CONF:RCS-32748).
                b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32747).
                Note: Refer to the value set definition for the code system to be used.
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:RCS-32749).
Note: The modifier observation makes it possible to provide additional information regarding the substance administration
    a. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32750).
    b. This entryRelationship **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32751).
    c. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32752).
        i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32753).
        ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32754).

iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32755).

Note: The code value indicates the type of modifier observation.

1. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Medication Administration Response `1.3.6.1.4.1.19376.1.4.1.6.5.10062` (CONF:RCS-32756).
2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32757).

   Note: Refer to the value set definition for the code system to be used.

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32758).

Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33141).

Table 6.5.4.2.2.3.2.3-1: Procedure Medication Administration Entry

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.45"/>
        <consumable typeCode="CSM">
            <manufacturedProduct classCode="MANU">
                <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
                    <code code="60819" codeSystem="2.16.840.1.113883.6.88"
                     codeSystemName="RxNorm" displayName="Bivalirudin"/>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="432102000" displayName="Administration of Substance"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" code="100000618" displayName=" Yes"/>
            </observation>
        </entryRelationship>
        <!-- 9510 -->
    </substanceAdministration>
</entryRelationship>
<!--  CathPCI # 9500 -->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <substanceAdministration classCode="SBADM" moodCode="RQO" negationInd="false">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.45"/>
        <consumable typeCode="CSM">
            <manufacturedProduct classCode="MANU">
                <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
                    <code code="613391" codeSystem="2.16.840.1.113883.6.88"
                     codeSystemName="RxNorm" displayName="Prasugrel"/>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="432102000" displayName="Administration of Substance"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" code="100000620"
                 displayName="Blinded"/>
            </observation>
        </entryRelationship>
    </substanceAdministration>
</entryRelationship>
<!--  CathPCI # 9500, 9505, 9510, 9515 -->
```


6.5.4.2.2.3.2.4 Procedure Device Organizer

`[organizer: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.47 (closed)]`

The Procedure Device Organizer contains information about the devices that are used within a procedure. The template captures information for the device, and for the lesion or lesions which it was used to treat. The identifier of each lesion treated with the device is also recorded.

The template is listed as conditionally present because device information is only collected if lesions are being treated, i.e., if a PCI procedure is performed.

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" (CONF:RCS-32790).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32791).
    a.
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32977).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.47" (CONF:RCS-32978).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32979).
4. **SHALL** contain exactly one [1..1] **statusCode** (CONF:RCS-33150).
    a. This statusCode **SHALL** contain exactly one [1..1] **@nullFlavor**="NI" (CONF:RCS-33151).
5. **SHALL** contain exactly one [1..1] **participant** (CONF:RCS-32792).
   Note: The association provides identification of the device.
    a. This participant **SHALL** contain exactly one [1..1] **@typeCode**="DEV" (CONF:RCS-32793).
    b. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:RCS-32794).
        i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="ROL" (CONF:RCS-33089).
        ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:RCS-32795).
            1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode**="DEV" (CONF:RCS-32796).
            2. This playingDevice **SHALL** contain exactly one [1..1] **@determinerCode**="INSTANCE" (CONF:RCS-32797).
            3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32798).
               Note: A code that identifies the type of device used during a procedure.
                a. This code **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-33403).
                   Note: The null flavor may be valued to indicate the lack of information regarding the device type.

b. This code **SHALL** contain exactly one [1..1] **@code** (CONF:RCS-33387).
Note: Intracoronary devices are used to treat lesions, and closure devices are used in arterial closure. The particular value set that is used depends on the procedure being performed.
Use (ValueSet: Intracoronary Device `1.3.6.1.4.1.19376.1.4.1.6.5.11530`) if procedure = PCI.
Use (ValueSet: Closure Device `1.3.6.1.4.1.19376.1.4.1.6.5.10044`) if procedure = arterial closure.

c. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33388).
Note: Refer to the value set definition for the code system to be used.

6. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-32799).
Note: The component association allows the recording of information for the device. The need for device information is dependent on the device type.
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32800).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32801).
   c. The component, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32802).
      i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33389).
      ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33390).
      iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32803).
         1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Device Observation `1.3.6.1.4.1.19376.1.4.1.6.5.10129`) (CONF:RCS-33090).
         2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33091).
         Note: Refer to the value set definition for the code system to be used.
      iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32804).
      Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32805).

7. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-32806).
Note: The component association provides a pointer to indicate one or more lesions treated with the device during the PCI procedure.
    a. Such components **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33092).
    b. Such components **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33093).
    c. Such components **SHALL** contain exactly one [1..1] **act** (CONF:RCS-32807).
    Note: The act is used to manage an identifier for the treated lesion.
        i. This act **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CONF:RCS-32808).
        ii. This act **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32809).
        iii. This act **SHALL** contain exactly one [1..1] **id** (CONF:RCS-32810).
        Note: The identifier for a treated lesion. The identifier value must equal the identifier assigned to a lesion. This act repeats to allow for the fact that a device may be used to treat multiple lesions.
            1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.3478.4.846" (CONF:RCS-32811).
            2. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:RCS-33407).
        iv. This act **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33152).
        Note: A code that identifies the act.
            1. This code **SHALL** contain exactly one [1..1] **@code**="100000886" (CONF:RCS-33357).
            2. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.3.3478.6.1" (CONF:RCS-33358).

Table 6.5.4.2.2.3.2.4-1: Procedure Device Organizer

```
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <sequenceNumber value="1"/>
    <organizer classCode="CLUSTER" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.47"/>
        <statusCode nullFlavor="NI"/>
        <participant typeCode="DEV">
            <participantRole classCode="ROL">
                <playingDevice classCode="DEV" determinerCode="INSTANCE">
                    <code code="100000868" codeSystemName="ACC-Intracoronary Device"
                     codeSystem="2.16.840.1.113883.3.3478.6.2" displayName="Accent
                     Balloon - Cook Medical"/>
                </playingDevice>
            </participantRole>
        </participant>
        <!-- CathPCI # 7225  -->
        <component typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code code="408706001" codeSystem="2.16.840.1.113883.3.3478.6.96"
                 codeSystemName="SNOMED" displayName="Device Diameter"/>
                <value xsi:type="PQ" value="5" unit="mm"/>
            </observation>
        </component>
        <!-- CathPCI # 7235  -->
        <component>
            <observation classCode="OBS" moodCode="EVN">
                <code code="408703009" codeSystem="2.16.840.1.113883.3.3478.6.96"
                 codeSystemName="SNOMED" displayName="Device Length"/>
                <value xsi:type="PQ" value="20" unit="mm"/>
            </observation>
        </component>
        <!-- CathPCI # 7240  -->
        <component>
            <act classCode="ACT" moodCode="EVN">
                <id root="2.16.840.1.113883.3.3478.4.846" extension="1"/>
                <code code="100000886" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" displayName="Lesion Reference"/>
            </act>
        </component>
        <!-- CathPCI # 7240  -->
        <component typeCode="COMP" contextConductionInd="true">
            <act classCode="ACT" moodCode="EVN">
                <id root="2.16.840.1.113883.3.3478.4.846" extension="2"/>
                <code code="100000886" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" displayName="Lesion Reference"/>
            </act>
        </component>
        <!-- CathPCI # 7240  -->
    </organizer>
</entryRelationship>
     <!--
     ******************************************************
     Device # 2
     ******************************************************
```



```
-->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <sequenceNumber value="2"/>
    <organizer classCode="CLUSTER" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.47"/>
        <statusCode nullFlavor="NI"/>
        <participant typeCode="DEV">
            <participantRole>
                <playingDevice classCode="DEV" determinerCode="INSTANCE">
                    <code code="193" codeSystemName="ACC-Intracoronary Device"
                     codeSystem="2.16.840.1.113883.3.3478.6.2" displayName="Xience V
                     DES - RX - Multilink MiniVision - Abbott Vascular Devices"/>
                </playingDevice>
            </participantRole>
        </participant>
        <!-- CathPCI # 7225  -->
        <component typeCode="COMP" contextConductionInd="true">
            <act classCode="ACT" moodCode="EVN">
                <id root="2.16.840.1.113883.3.3478.4.846" extension="2"/>
                <code code="100000886" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" displayName="Lesion Reference"/>
            </act>
        </component>
        <!-- CathPCI # 7240  -->
    </organizer>
</entryRelationship>
     <!--
     ********************************************************
     Device # 3
     ********************************************************
-->
<entryRelationship typeCode="COMP" contextConductionInd="true">
    <sequenceNumber value="3"/>
    <organizer classCode="CLUSTER" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.47"/>
        <statusCode nullFlavor="NI"/>
        <participant typeCode="DEV">
            <participantRole>
                <playingDevice classCode="DEV" determinerCode="INSTANCE">
                    <code code="158" codeSystemName="ACC-Intracoronary Device"
                     codeSystem="2.16.840.1.113883.3.3478.6.2" displayName="Proxis
                     Embolic Protection System - St. Jude Medical"/>
                </playingDevice>
            </participantRole>
        </participant>
        <!-- CathPCI # 7225  -->
        <component typeCode="COMP" contextConductionInd="true">
            <act classCode="ACT" moodCode="EVN">
                <id root="2.16.840.1.113883.3.3478.4.846" extension="2"/>
                <code code="100000886" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" displayName="Lesion Reference"/>
            </act>
        </component>
        <component typeCode="COMP" contextConductionInd="true">
            <act classCode="ACT" moodCode="EVN">
```



```
                <id root="2.16.840.1.113883.3.3478.4.846" extension="4"/>
                <code code="100000886" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" displayName="Lesion Reference"/>
            </act>
        </component>
        <!-- CathPCI # 7240  -->
    </organizer>
</entryRelationship>
```

6.5.4.2.2.3.3 Procedure Session Organizer

`[organizer: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.68 (closed)]`

The Procedure Session Organizer associates the procedure session with an organizer that groups information associated directly with the procedure session, i.e., cathlab visit, but is not linked to a specific procedure. This includes post-procedure laboratory results, contrast administration and events during and after the procedure.

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" (CONF:RCS-33556).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33557).
3. **SHALL** contain exactly one [1..1] **statusCode** (CONF:RCS-xxxxxx).
   Note: A status code value is required by the CDA schema.
   a. This statusCode **SHALL** contain exactly one [1..1] **@nullFlavor**="NI" (CONF:RCS-xxxxxx).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33558).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.68" (CONF:RCS-33559).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33570).
5. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:RCS-33560).
   a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:RCS-33561).
6. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33542).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33592).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33593).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Procedure Session Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.50) (CONF:RCS-33543).
7. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33546).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33596).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33597).

c. The component, if present, **SHALL** contain exactly one [1..1] **Contrast Administration Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.24) (CONF:RCS-33547).

8. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33548).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33598).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33599).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Procedure Session Event Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.63) (CONF:RCS-33549).
9. **SHOULD** contain zero or more [0..*] **component** (CONF:RCS-33544).
   a. The component, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33594).
   b. The component, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33595).
   c. The component, if present, **SHALL** contain exactly one [1..1] **Post-procedure Laboratory Result Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.64) (CONF:RCS-33545).

Table 6.5.4.2.2.3.3-1: Procedure Session Organizer

```
<entry typeCode="COMP" contextConductionInd="true">
    <organizer classCode="CLUSTER" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.68"/>
        <statusCode nullFlavor="NI"/>
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Procedure Session Observation Entry
        ********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Post Procedure Laboratory Result Entry
        ********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Procedure Session Event Entry
        ********************************************************
-->
        </component >
        <component typeCode="COMP" contextConductionInd="true">
        <--!
        ********************************************************
        Contrast Administration
        ********************************************************
-->
        </component >
    </organizer>
</entry>
```

6.5.4.2.2.3.3.1 Procedure Session Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.50 (closed)]`

The Procedure Session Observation Entry captures clinical findings that are related to a procedure and typically occur during a procedure but may or may not include an intervention. Procedure Session Observation value set defines the set of expected observation types.

8. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32880).
9. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32881).
10. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32876).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.50" (CONF:RCS-32882).

b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32883).

11. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32874).
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10117) (CONF:RCS-32877).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32878).
    Note: Refer to the value set definition for the code system to be used.
12. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32879).
    Note: Effective time may be valued to indicate the period of time within which a procedure observation was recorded.
13. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32875).
    Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32361).
    Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.
14. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-32884).
    Note: The need for and type of the modifier observation is dependent on the value of the clinical observation code.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32885).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32886).
    c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32887).
        i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32888).
        ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32889).
        iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32890).
        Note: The code value indicates the modifier type. The choice of data type and (for coded types) value set is dependent on the value within observation code. The relevant data type and potential value set is contained within the value set definition.
            1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10119) (CONF:RCS-32891).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32892).
   Note: Refer to the value set definition for the code system to be used.

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32893).
   Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
   1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-32894).
      Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.3.1-1: Procedure Session Observation Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN ">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.5"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="311788003" displayName="Arterial Access Site"/>
        <value xsi:type="CD" code="181322008"
         codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-Internal"
         displayName="Brachial"/>
    </observation>
</component>
<!--  CathPCI # 5350  -->
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.5"/>
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="233970002" displayName="Coronary artery stenosis"/>
        <value xsi:type="INT" value="40"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
                 Internal" code="100000888" displayName="Coronary Territory"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96"
                 codeSystemName="SNOMED" code="3227004" displayName="Left Main"/>
            </observation>
        </entryRelationship>
    </observation>
</component>
<!-- CathPCI # 6110  -->
```


6.5.4.2.2.3.3.2 Post-procedure Laboratory Result Entry

[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.64 (closed)]

The Post-procedure Laboratory Result Entry captures relevant clinical laboratory test results such as CKMB, Troponin etc. which were taken post procedure. The Post-procedure Laboratory Result value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33480).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33481).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33469).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.64" (CONF:RCS-33477).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33478).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33467).
    a. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Post-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.11536 (CONF:RCS-33474).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33475).
    Note: Refer to the value set definition for the code system to be used.
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33479).
Note: The choice of data type and (for coded types) value set is dependent on the value within observation code. The relevant data type and potential value set is contained within the value set definition.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33468).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33476).
    Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33470).
Note: The need for and type of the modifier observation is dependent on the value of the observation code.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33482).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33483).
    c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33471).

i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33484).

ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33485).

iii. This observation **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet Laboratory Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11537(CONF:RCS-33472).
Note: The code value indicates the modifier type. The choice of data type and (for coded types) value set is dependent on the value within observation code. The relevant data type and potential value set is contained within the value set definition.

1. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Laboratory Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11537) (CONF:RCS-33486).
2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33487).
   Note: Refer to the value set definition for the code system to be used.

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33473).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33488).
   Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.3.2-1: Post-procedure Laboratory Result Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.64"/>
    <observation classCode="OBS" moodCode="EVN">
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="6598-7" displayName="Troponin T"/>
        <value xsi:type="PQ" value="0.1"/>
    </observation>
</component>
<!-- CathPCI # 7335 -->
<component typeCode="COMP" contextConductionInd="true">
    <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.64"/>
    <observation classCode="OBS" moodCode="EVN">
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
         code="718-7" displayName="HgB"/>
        <value xsi:type="PQ" value="15.0"/>
    </observation>
</component>
<!-- CathPCI # 7345 -->
```

6.5.4.2.2.3.3.3 Contrast Administration Entry

`[substanceAdministration: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.24 (closed)]`

The Contrast Administration Entry includes information on the contrast substance administered during the procedure session, specifically, the fluoroscopy dose of contrast.

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CONF:RCS-33168).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33169).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-33181).
   Note: The negation indicator is valued to indicate whether or not a contrast substance was administered.
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33166).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.24" (CONF:RCS-33177).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33178).
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33170).
6. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:RCS-33182).
   Note: The amount of substance administered.
7. **SHALL** contain exactly one [1..1] **consumable** (CONF:RCS-33162).
   a. This consumable **SHALL** contain exactly one [1..1] **@typeCode**="CSM" (CONF:RCS-33171).
   b. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:RCS-33163).

i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CONF:RCS-33172).
ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:RCS-33164).
    1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@classCode**="MMAT" (CONF:RCS-33173).
    2. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" (CONF:RCS-33174).
    3. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33165).
       Note: The code value identifies the substance given to the patient during the procedure session.
        a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Contrast Administration 1.3.6.1.4.1.19376.1.4.1.6.5.10111) (CONF:RCS-33175).
        b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33176).
           Note: Refer to the value set definition for the code system to be used.

Table 6.5.4.2.2.3.3.3-1: Contrast Administration Entry

```
<component>
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.24"/>
        <doseQuantity value="200" unit="ml"/>
        <consumable typeCode="CSM">
            <manufacturedProduct classCode=”MANU”>
                <manufacturedMaterial classCode=”MMAT” determinerCode=”KIND”>
                    <code code="419098001" codeSystem="2.16.840.1.113883.6.96"
                     codeSystemName="SNOMED" displayName="X-ray contrast media"/>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
    </substanceAdministration>
</component>
<!--  CathPCI # 5325 -->
```

6.5.4.2.2.3.3.4 Procedure Session Event Entry

[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.63 (closed)]

The Procedure Session Event Entry captures clinical events collected during or after the procedure session. Included in this template are events that occur during or after the procedure, e.g., cardiac arrest, heart failure or stroke. The Procedure Session Event value set defines the set of expected observation types.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33512).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33513).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-33501).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.63" (CONF:RCS-33509).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33510).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33499).
    a. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.11532 (CONF:RCS-33506).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33507).
    Note: Refer to the value set definition for the code system to be used.
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-33511).
Note: Effective time may be valued to indicate the period of time within which an event was observed.
6. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33500).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.
    a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33508).
    Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:RCS-33502).
Note: The clinical observation modifier provides additional information that refines or adds to the clinical observation. The need for and type of the modifier observation is dependent on the value of the clinical observation code.
    a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-33514).
    b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-33515).
    c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-33503).
        i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-33516).
        ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-33517).
        iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33504).
        Note: The code value indicates the modifier type. The choice of data

type and (for coded types) value set is dependent on the value within observation code. The relevant data type and potential value set is contained within the value set definition.

1. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Procedure Session Event Modifier `1.3.6.1.4.1.19376.1.4.1.6.5.11538` (CONF:RCS-33518).
2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-33519).
   Note: Refer to the value set definition for the code system to be used.

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-33505).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

1. This value **MAY** contain zero or one [0..1] **@nullFlavor**="NAV" (CONF:RCS-33520).
   Note: The null flavor may be valued to indicate lack of information regarding the modifier.

Table 6.5.4.2.2.3.3.4-1: Procedure Session Event Entry

```
<component typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.63"/>
        <code codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
         Internal" code="100000883" displayName="Significant Dissection"/>
        <value xsi:type="BL" value="false"/>
    </observation>
</component>
<!-- CathPCI.7245 -->
<component typeCode="COMP" contextConductionInd="true">
    <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.63"/>
    <observation classCode="OBS" moodCode="EVN">
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="230690007" displayName="Cerebrovascular accident"/>
        <value xsi:type="BL" value="true"/>
    </observation>
</component>
<!-- CathPCI.8015-->
<component typeCode="COMP" contextConductionInd="true">
    <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.63"/>
    <observation classCode="OBS" moodCode="EVN">
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
         code="131148009" displayName="Bleeding Event w/in 72 hours"/>
        <value xsi:type="BL" value="true"/>
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.3.3478.6.1" codeSystemName="ACC-
                 Internal" code="100000902" displayName="Bleeding Location"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96"
                 codeSystemName="SNOMED" code="82849001"
                 displayName="Retroperitoneal Structure"/>
            </observation>
        </entryRelationship>
        <!-- CathPCI.8070-->
    </observation>
</component>
<!-- CathPCI.8050-->
```

6.5.4.2.2.3.4 Discharge Section

`[section: templateId 1.3.6.1.4.1.19376.1.4.1.6.2.44 (closed)]`

The Discharge Section includes information that is associated with the patient's discharge or departure from the healthcare facility.

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCSECT" (CONF:RCS-32679).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32680).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32681).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.2.44" (CONF:RCS-32682).

b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-33155).

4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-33006).
   a. This code **SHALL** contain exactly one [1..1] **@code**="LOINC_44" (CONF:RCS-33007).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.1"** (CONF:RCS-33008).
5. **SHALL** contain exactly one [1..1] **text**="Refer to Section entries." (CONF:RCS-32683).
6. **SHOULD** contain zero or more [0..*] **entry** (CONF:RCS-32870).
   Note: The entry records information collected upon the point the patient left the healthcare facility.
   a. The entry, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32871).
   b. The entry, if present, **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32872).
   c. The entry, if present, **SHALL** contain exactly one [1..1] **Discharge Observation Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.48) (CONF:RCS-32873).
7. **SHOULD** contain zero or more [0..*] **entry** (CONF:RCS-32855).
   Note: The entry includes the medication that was prescribed upon discharge. This information is required to be completed only for patient who had a PCI procedure attempted or performed during the encounter. Discharge medications are not required for patients who were discharged to "Other acute care hospital", "Hospice", or "Left against medical advice (AMA).
   a. Such entries **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32856).
   b. Such entries **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32857).
   c. Such entries **SHALL** contain exactly one [1..1] **Discharge Medication Entry** (templateId:1.3.6.1.4.1.19376.1.4.1.6.4.49) (CONF:RCS-32858).

Table 6.5.4.2.2.3.4-1: Discharge Section

```
<component>
    <section>
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.2.44"/>
        <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC_TBD_44"
         code="TBD" displayName="Discharge"/>
        <title>Discharge</title>
        <text>
            Refer to section entries.
         </text>
        <entry typeCode=”COMP” contextConductionInd=”true”>
        <!--
        ********************************************************
        Discharge Observation Entry
        ********************************************************
-->
        </entry>
        <entry typeCode=”COMP” contextConductionInd=”true”>
        <!--
        ********************************************************
        Discharge Medication Entry
        ********************************************************
-->     </entry>
    </section>
</component>
```

6.5.4.2.2.3.4.1 Discharge Observation Entry

`[observation: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.48 (closed)]`

The Discharge Observation Entry includes observations associated with the patient’s discharge or departure from the healthcare facility.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32866).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32867).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32861).
    a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.48" (CONF:RCS-32868).
    b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32869).
4. **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32859).
    a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10118) (CONF:RCS-32862).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32863).
    Note: Refer to the value set definition for the code system to be used.
5. **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32860).
    Note: The observation value. The data type for observation value has been set at

'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

a. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:RCS-32865). Note: The null flavor may be valued to indicate the lack of information regarding the clinical observation.

Table 6.5.4.2.2.3.4.1-1: Discharge Observation Entry

```
<entry typeCode="COMP" contextConductionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.48"/>
        <code code="100000884" codeSystem="2.16.840.1.113883.3.3478.6.1"
         codeSystemName="ACC-Internal" displayName="Discharge Disposition"/>
        <value xsi:type="CD" code="62" codeSystem="2.16.840.1.113883.12.112"
         codeSystemName="HL7 Discharge disposition" displayName="Extended
         Care/TCU/Rehab"/>
    </observation>
</entry>
<!-- CathPCI.9045 combined with 9040 -->
```

6.5.4.2.2.3.4.2 Discharge Medication Entry

`[substanceAdministration: templateId 1.3.6.1.4.1.19376.1.4.1.6.4.49 (closed)]`

The Discharge Medication Entry contains information on medications the patient was prescribed upon discharge.

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CONF:RCS-32832).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" (CONF:RCS-32833).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:RCS-32854).
   Note: The negation indicator is valued to indicate whether or not a specified medicine has been given.
   A negation indicator value = "false" provides notification that the substance administration did take place, while negation indicator = "true" is a notification that the substance administration did not take place.
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:RCS-32824).
   a. This templateId **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.4.1.6.4.49" (CONF:RCS-32309).
   b. This templateId **MAY** contain zero or one [0..1] **@extension** (CONF:RCS-32841).
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:RCS-32834).
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:RCS-32820).
   a. This consumable **SHALL** contain exactly one [1..1] **@typeCode**="CSM" (CONF:RCS-32835).

b. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:RCS-32821).
   i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CONF:RCS-32836).
   ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:RCS-32822).
      1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@classCode**="MMAT" (CONF:RCS-32837).
      2. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" (CONF:RCS-32838).
      3. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32823).
         Note: The code value identifies the medication taken by the patient before the procedure.
         a. This code **SHALL** contain exactly one [1..1] **@code** (ValueSet: Discharge Medication 1.3.6.1.4.1.19376.1.4.1.6.5.10060) (CONF:RCS-32839).
         b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32840).
            Note: Refer to the value set definition for the code system to be used.

7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:RCS-32964).
   Note: The modifier observation makes it possible to provide additional information regarding the substance administration.
   a. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:RCS-32965).
   b. This entryRelationship **SHALL** contain exactly one [1..1] **@contextConductionInd**="true" (CONF:RCS-32966).
   c. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:RCS-32967).
      i. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:RCS-32968).
      ii. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:RCS-32969).
      iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32970).
         1. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Medication Administration Response 1.3.6.1.4.1.19376.1.4.1.6.5.10062 (CONF:RCS-32971).
         2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:RCS-32972).

Note: Refer to the value set definition for the code system to be used.

iv. This observation **SHALL** contain exactly one [1..1] **value** (CONF:RCS-32973).

Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value. The prescribed data type is identified in the value set specification for the observation code value.

Table 6.5.4.2.2.3.4.2-1: Discharge Medication Entry

```
<entry typeCode="COMP" contextConductionInd="true">
    <substanceAdministration classCode="SBADM" moodCode="RQO" negationInd="true">
        <templateId root="1.3.6.1.4.1.19376.1.4.1.6.4.49"/>
        <consumable typeCode="CSM">
            <manufacturedProduct classCode="MANU">
                <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
                    <code code="1191" codeSystem="2.16.840.1.113883.6.88"
                     codeSystemName="RxNorm" displayName="Aspirin"/>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <!-- 9505 -->
        <entryRelationship typeCode="COMP" contextConductionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
                 code="432102000" displayName="Administration of Substance"/>
                <value xsi:type="CD" codeSystem="2.16.840.1.113883.3.3478.6.1"
                 codeSystemName="ACC-Internal" code="100000619"
                 displayName="Contraindicated"/>
            </observation>
        </entryRelationship>
        <!-- 9510 -->
    </substanceAdministration>
</entry>
```


6.5.5 RCS-C Vocabulary Constraints

RCS-C Vocabulary Constraints define the set of permitted code values and their display names for coded elements and are specified within the content module portion of the profile. Each value set is represented in the form of a two-dimensional table having the code values as rows and metadata concerning each code value as columns. The value sets are given a name and are assigned a unique identifying OID. For example:

Table 6.5.5.23-1: Encounter Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10090

- **Table Identifier:** Table 6.5.5.23-1
- **Value Set Name:** Encounter Observation
- **Value Set OID:** `1.3.6.1.4.1.19376.1.4.1.6.5.10090`

The value set name and OID are used to refer to the value set in content module constraint statements. For example:

> **SHALL** contain exactly one [1..1] **code** (CONF:RCS-32003).
> Note: The code value indicates the type of encounter observation.
>
> This code **SHALL** contain exactly one [1..1] **@code** (**ValueSet: Encounter Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10090**) (CONF:RCS-32322).

The value sets are listed alphabetically by name and include the following metadata for each code value:

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set//Code)

- **Code** is a unique concept identifier assigned by the code system. Note that the code is unique within the code system but not necessarily unique within the value set. The value set is a collection of uniquely coded concepts from one or more code system.
- **Code System** is the name of the code system from which the code value is drawn. Every attempt has been made to use internationally recognized code systems such as SNOMED, RxNorm, and LOINC wherever possible. However, when no suitable code system value was identified a code is provided from a code system maintained by ACCF internally.
- **Display Name** is the name chosen as the preferred name when the code system allows for multiple alternative names for the same concept.

Every coded concept includes a specification for Code, Code System, and Display Name. The remaining code value metadata are used to specify constraints that pertain to the

Value attribute of the Observation class wherein the coded concept is used as the value for of Observation Code. The constraint for Observation value is specified using the "Any" data type. For example:

SHALL contain exactly one [1..1] **value** (CONF:RCS-32004).
Note: The observation value. The data type for observation value has been set at 'ANY' because the data type will vary depending on the observation code value.

The following code value metadata specify constraints upon the Observation Value attribute.

- **Value Data Type** is a specification of the data type assigned to the Observation Value. The data types are drawn from and specified in the HL7 Data Type R1 specification. For information: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=48
- **Value Set Name** is a reference to the value set used for the Observation Value when the Observation Value is itself a coded concept, as denoted by the CD data type.
- **Unit of Measure** is a specification of the unit of measure used for the Observation Value when the Observation Value is a physical quantity, as denoted by the PQ data type.
- **Modifier element** is the set of one or more optional value sets or value set members eligible for use as a modifier to the Observation Value.

The following is an example of a Value set utilizing this extended metadata:

Table 6.5.5.23-1: Encounter Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10090

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set//Code)
100000800	ACC-Internal	Encounter Admission Source	CD	VS:Admission Source	
100000852	ACC-Internal	Encounter Insurance Payor	CD	VS:PayorCategory	
100000801	ACC-Internal	Patient Health Insurance Claim Number	ST		

6.5.5.1 Admission Source - Vocabulary Constraints

The content creator will be capable of creating an Admission Source code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10080, listed below.

Table 6.5.5.1-1: Admission Source 1.3.6.1.4.1.19376.1.4.1.6.5.10080

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
ED	ACC-Internal	Emergency Department			
OTH	HL7NullFlavor	Other Admission Source			
TR	ACC-Internal	Transfer From Acute Care Facility			

6.5.5.2 Arterial Access Site - Vocabulary Constraints

The content creator shall be capable of creating an Arterial Access Site code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10043, listed below.

Table 6.5.5.2-1: Arterial Access Site 1.3.6.1.4.1.19376.1.4.1.6.5.10043

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
181322008	SNOMED	Brachial Artery			
244332003	SNOMED	Femoral Artery			
OTH	HL7NullFlavor	Other Arterial Location			
181332001	SNOMED	Radial Artery			

6.5.5.3 Bleeding Location - Vocabulary Constraints

The content creator shall be capable of creating a Bleeding Location code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10085, listed below.

Table 6.5.5.3-1: Bleeding Location 1.3.6.1.4.1.19376.1.4.1.6.5.10085

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
311788003	SNOMED	Access Site			
278861008	SNOMED	Entire genitourinary system			
122865005	SNOMED	Gastrointestinal tract structure			
OTH	HL7NullFlavor	Other Body Structure			
82849001	SNOMED	Retroperitoneal Structure			

6.5.5.4 CAD Presentation - Vocabulary Constraints

The content creator shall be capable of creating a CAD Presentation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10033, listed below.

Table 6.5.5.4-1: CAD Presentation 1.3.6.1.4.1.19376.1.4.1.6.5.10033

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000654	ACC-Internal	No symptom, no angina			
401314000	SNOMED	Non-STEMI			
401303003	SNOMED	ST-Elevation MI (STEMI) or equivalent			
233819005	SNOMED	Stable angina			
100000655	ACC-Internal	Symptom unlikely to be ischemic			
4557003	SNOMED	Unstable angina			

6.5.5.5 Cardiac CTA Results - Vocabulary Constraints

The content creator shall be capable of creating a Cardiac CTA Results code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10058, listed below.

Table 6.5.5.5-1: Cardiac CTA Results 1.3.6.1.4.1.19376.1.4.1.6.5.10058

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000642	ACC-Internal	1 VD			
100000643	ACC-Internal	2 VD			
100000644	ACC-Internal	3 VD			
100000645	ACC-Internal	Indeterminant			
100000641	ACC-Internal	No Disease			
100000646	ACC-Internal	Unavailable			

6.5.5.6 Cardiac Transplant Evaluation Type - Vocabulary Constraints

The content creator shall be capable of creating a Cardiac Transplant Evaluation Type code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10098, listed below.

Table 6.5.5.6-1: Cardiac Transplant Evaluation Type 1.3.6.1.4.1.19376.1.4.1.6.5.10098

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000821	ACC-Internal	Candidate to receive a cardiac transplant			
100000820	ACC-Internal	Donor for cardiac transplant			
100000822	ACC-Internal	Post cardiac transplant follow up			

6.5.5.7 Cause of death - Vocabulary Constraints

The content creator shall be capable of creating a Cause of death code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10072, listed below.

Table 6.5.5.7-1: Cause of death 1.3.6.1.4.1.19376.1.4.1.6.5.10072

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000664	ACC-Internal	Cardiac			
100000665	ACC-Internal	Infection			
100000666	ACC-Internal	Neurologic			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000667	ACC-Internal	Other			
100000668	ACC-Internal	Pulmonary			
100000669	ACC-Internal	Renal			
100000670	ACC-Internal	Unknown			
100000671	ACC-Internal	Valvular			
100000672	ACC-Internal	Vascular			

6.5.5.8 CCS Classification - Vocabulary Constraints

The content creator shall be capable of creating a CCS Classification code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10028, listed below.

Table 6.5.5.8-1: CCS Classification 1.3.6.1.4.1.19376.1.4.1.6.5.10028

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
61490001	SNOMED	CCS class I			
41334000	SNOMED	CCS class II			
85284003	SNOMED	CCS class III			
89323001	SNOMED	CCS class IV			
100000247	ACC-Internal	No Symptoms (Angina)			

6.5.5.9 Closure Device - Vocabulary Constraints

The content creator shall be capable of creating a Closure Device code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10044, listed below. The Closure Device list in CathPCI registry is dynamic; participant can download and import the up-to-date list into their application from the NCDR website https://www.ncdr.com/webncdr/CathPCI/Home/technologydownload?TechDownType=view&DynamicList=Closure&SortBy=Device%20ID. There is an effective and expiration date associated with each closure device and only devices in effect at the time of the patient's date of admission should be collected and/or available for selection in the application. Closure Device ID is used as the code and the code system is named in the Code System Name column. The coding system is ACC Closure Device.

Table 6.5.5.9-1: Closure Device 1.3.6.1.4.1.19376.1.4.1.6.5.10044

Effective Date	Expiration Date	Device ID	Code System Name	Device Name	Manufacturer	Device Type
1/1/2008	12/31/2014	1	ACC-Closure Device	Sample 1 Name	Manufacturer 1 Name	Sealant
1/1/2008		2	ACC-Closure Device	Sample 2 Name	Manufacturer 2 Name	Sealant
1/1/2008		3	ACC-Closure Device	Sample 3 Name	Manufacturer 1 Name	Sealant
1/1/2008		4	ACC-Closure Device	Sample 4 Name	Manufacturer 2 Name	Other
1/1/2008		5	ACC-Closure Device	Sample 5 Name	Manufacturer 1 Name	Patch
1/1/2008		6	ACC-Closure Device	Sample 6 Name	Manufacturer 2 Name	Manual compression

6.5.5.10 Component Procedure - Vocabulary Constraints

The content creator shall be capable of creating a Component Procedure code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10128, listed below.

Table 6.5.5.10-1: Component Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10128

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
67629009	SNOMED	Catheterization of left heart			
33367005	SNOMED	Diagnostic Coronary Angiography			

6.5.5.11 Contrast Administration - Vocabulary Constraints

The content creator shall be capable of creating a Contrast Administration code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10111, listed below.

Table 6.5.5.11-1: Contrast Administration 1.3.6.1.4.1.19376.1.4.1.6.5.10111

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
419098001	SNOMED	X-ray contrast media			

6.5.5.12 Coronary Segment - Vocabulary Constraints

The content creator shall be capable of creating a Coronary Segment code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10034, listed below.

Table 6.5.5.12-1: Coronary Segment 1.3.6.1.4.1.19376.1.4.1.6.5.10034

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000538	ACC-Internal	Acute marginal segment(s) - aMarg			
75902001	SNOMED	Circumflex artery AV groove continuation segment - CIRC AV			
6511003	ACC-Internal	Distal circumflex artery segment - dCIRC			
36672000	SNOMED	Distal LAD artery segment - dLAD			
41879009	SNOMED	Distal right coronary artery conduit segment - dRCA			
91750005	SNOMED	First diagonal branch segment - 1st Diag			
91757008	SNOMED	First left posterolateral branch segment - 1st LPL			
91754001	SNOMED	First obtuse marginal branch segment - 1st OM			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
91761002	SNOMED	First right posterolateral segment - 1st RPL			
100000547	ACC-Internal	LAD septal perforator segments - LAD SP			
100000544	ACC-Internal	Lateral first diagonal branch segment - Lat 1st Diag			
100000552	ACC-Internal	Lateral first obtuse marginal branch segment - Lat 1st OM			
100000563	ACC-Internal	Lateral ramus intermedius segment - Lat Ramus			
100000546	ACC-Internal	Lateral second diagonal branch segment - Lat 2nd Diag			
100000554	ACC-Internal	Lateral second obtuse marginal branch segment - Lat 2nd OM			
100000565	ACC-Internal	Lateral third diagonal branch segment - Lat 3rd Diag			
100000556	ACC-Internal	Lateral third obtuse marginal branch segment - Lat 3rd OM			
3227004	SNOMED	Left main coronary artery segment - LM			
56322004	SNOMED	Left posterolateral descending artery segment - LPDA			
91753007	SNOMED	Mid-circumflex artery segment - mCIRC			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
91748002	SNOMED	Mid-LAD artery segment - mLAD			
45096006	SNOMED	Mid-right coronary artery conduit segment - mRCA			
52433000	SNOMED	Proximal circumflex artery segment - pCIRC			
68787002	SNOMED	Proximal LAD artery segment - pLAD			
91083009	SNOMED	Proximal right coronary artery conduit segment - pRCA			
244252004	SNOMED	Ramus intermedius segment - Ramus			
12800002	SNOMED	Right posterior atrioventricular segment - rPAV			
53655008	SNOMED	Right posterior descending artery segment - rPDA			
100000537	ACC-Internal	RPLPosterior descending septal perforators segment - pDSP			
91751009	SNOMED	Second diagonal branch segment - 2nd Diag			
91758003	SNOMED	Second left posterolateral branch segment - 2nd LPL			
91755000	SNOMED	Second obtuse marginal branch segment - 2nd OM			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
91762009	SNOMED	Second right posterolateral segment - 2nd RPL			
91752002	SNOMED	Third diagonal branch segment - 3rd Diag			
91756004	SNOMED	Third obtuse marginal branch segment - 3rd OM			
91759006	SNOMED	Third posterolateral descending artery segment - 3rd LPL			
91763004	SNOMED	Third right posterolateral segment - 3rd			

6.5.5.13 Coronary Territory - Vocabulary Constraints

The content creator shall be capable of creating a Coronary Territory code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10100, listed below.

4485 **Table 6.5.5.13-1: Coronary Territory 1.3.6.1.4.1.19376.1.4.1.6.5.10100**

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000831	ACC-Internal	Circ, OMs, LPDA, LPL Branches			
100000848	ACC-Internal	CIRC, OMs, LPDA, LPL Branches Graft			
3227004	SNOMED	Left Main			
100000830	ACC-Internal	Mid/Distal LAD, Diag Branches			
100000847	ACC-Internal	Mid/Distal LAD, Diag Branches Graft			
68787002	SNOMED	Prox LAD			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000846	ACC-Internal	Proximal LAD Graft			
100000850	ACC-Internal	Ramus Graft,Pre-Procedure			
100000562	ACC-Internal	Ramus intermedius segment - Ramus			
100000832	ACC-Internal	RCA, RPDA, RPL, AM Branches			
100000849	ACC-Internal	RCA, RPDA, RPL, AM Branches Graft			

6.5.5.14 Device Observation - Vocabulary Constraints

The content creator shall be capable of creating a Device Observation code selected from the Value Set code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10129, listed below.

Table 6.5.5.14-1: Device Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10129

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
408706001	SNOMED	Device Diameter			
408703009	SNOMED	Device Length			

6.5.5.15 Diabetic Therapy - Vocabulary Constraints

The content creator shall be capable of creating a Diabetic Therapy code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10052, listed below.

Table 6.5.5.15-1: Diabetic Therapy 1.3.6.1.4.1.19376.1.4.1.6.5.10052

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
170745003	SNOMED	Diet			
170747006	SNOMED	Insulin			
100000590	ACC-Internal	No treatment for Diabetics			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
170746002	SNOMED	Oral			
OTH	HL7NullFlavor	Other Diabetic treatment			

6.5.5.16 Diagnostic Catheterization Recommendation - Vocabulary Constraints

The content creator shall be capable of creating a Diagnostic Catheterization Recommendation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10099, listed below.

Table 6.5.5.16-1: Diagnostic Catheterization Recommendation 1.3.6.1.4.1.19376.1.4.1.6.5.10099

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
232717009	SNOMED	CABG (including planned hybrid CABG/PCI procedures)			
445142003	SNOMED	Medical therapy and/or counseling			
100000823	ACC-Internal	None			
100000827	ACC-Internal	Other cardiac therapy without CABG or PCI			
415070008	SNOMED	PCI w/o planned CABG			

6.5.5.17 Discharge Disposition - Vocabulary Constraints

The content creator shall be capable of creating a Discharge Disposition code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10081, listed below.

Table 6.5.5.17-1: Discharge Disposition 1.3.6.1.4.1.19376.1.4.1.6.5.10081

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
20	HL7 Discharge disposition	Deceased			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
62	HL7 Discharge disposition	Extended care/TCU/rehab			
01	HL7 Discharge disposition	Home			
51	HL7 Discharge disposition	Hospice			
07	HL7 Discharge disposition	Left against medical advice (AMA)			
64	HL7 Discharge disposition	Nursing home			
02	HL7 Discharge disposition	Other acute care hospital			
OTH	HL7NullFlavor	Other Discharge Disposition			

6.5.5.18 Discharge Medication - Vocabulary Constraints

The content creator shall be capable of creating a Discharge Medication code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10060, listed below. The discharge medication list in CathPCI registry is dynamic; the participant can download and import the up-to-date list into their application from the NCDR website https://www.ncdr.com/webncdr/CathPCI/Home/technologydownload?TechDownType=csv&DynamicList=Medication&SortBy=Medication%20ID. There is an effective and expiration date associated with each medication and only devices in effect at the time of the patient's date of admission should be collected and/or available for selection in the application.

Table 6.5.5.18-1: Discharge Medication 1.3.6.1.4.1.19376.1.4.1.6.5.10060

Effective Date	Expiration Date	Code	Code System	Display Name
01/01/2008		41549009	SNOMED	ACE Inhibitor
01/01/2008		372913009	SNOMED	ARB
01/01/2008		1191	RxNorm	Aspirin
01/01/2008		33252009	SNOMED	Beta Blocker
01/01/2008		32968	RxNorm	Clopidogrel
10/01/2009		613391	RxNorm	Prasugrel
01/01/2008		96302009	SNOMED	Statins
10/01/2011		1116632	RxNorm	Ticagrelor
01/01/2008		10594	RxNorm	Ticlopidine

6.5.5.19 Discharge Observation - Vocabulary Constraints

The content creator shall be capable of creating a Discharge Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10118, listed below.

Table 6.5.5.19-1: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10118

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000539	ACC-Internal	Cardiac Rehabilitation Referral	CD	VS:Yes/No/Ineligible Response	
184305005	SNOMED	Cause of death	CD	VS:Cause of death	
419620001	SNOMED	Death			
100000884	ACC-Internal	Discharge Disposition	CD	VS:Discharge Disposition	

6.5.5.20 Dominance of the coronary anatomy - Vocabulary Constraints

The content creator shall be capable of creating a Dominance of the coronary anatomy code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10047, listed below.

Table 6.5.5.20-1: Dominance of the coronary anatomy 1.3.6.1.4.1.19376.1.4.1.6.5.10047

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
253730009	SNOMED	Co-Dominant			
253729004	SNOMED	Left Dominance			
253728007	SNOMED	Right Dominance			

6.5.5.21 Encounter Administrative - Vocabulary Constraints

The content creator shall be capable of creating an Encounter Administrative code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11531, listed below.

Table 6.5.5.21-1: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.11531

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000800	ACC-Internal	Encounter Admission Source	CD	VS:Admission Source	
100000852	ACC-Internal	Encounter Insurance Payor	CD	VS:Payor Category	
100000885	ACC-Internal	Encounter Type	CD	VS:Encounter Type	
100000801	ACC-Internal	Patient Health Insurance Claim Number	ST		
100000887	ACC-Internal	Patient Zip code	ST		

6.5.5.22 Encounter Observation - Vocabulary Constraints

The content creator shall be capable of creating an Encounter Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10090, listed below.

Table 6.5.5.22-1: Encounter Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10090

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
250908004	SNOMED	LVEF	PQ		

6.5.5.23 Encounter Procedure - Vocabulary Constraints

The content creator shall be capable of creating an Encounter Procedure code selected from the Value Set code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10130, listed below.

Table 6.5.5.23-1: Encounter Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10130

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
232717009	SNOMED	CABG			① ACC-Internal:100000869(Location where CABG was performed) from VS:Encounter Procedure Modifier ② SNOMED:272125009(Procedure Priority) from VS:Encounter Procedure Modifier ③ ACC-Internal:100000903(Reason for CABG) from VS:Encounter Procedure Modifier
100000713	ACC-Internal	Other Major Surgery			

6.5.5.24 Encounter Procedure Modifier - Vocabulary Constraints

The content creator shall be capable of creating an Encounter Procedure Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10131, listed below.

Table 6.5.5.24-1: Encounter Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10131

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000869	ACC-Internal	Location where CABG was performed	CD	VS:Location where Procedure was performed	
272125009	SNOMED	Procedure Priority	CD	VS:Procedure Priority	
100000903	ACC-Internal	Reason for CABG	CD	VS:Reason for CABG	

6.5.5.25 Ethnicity - Vocabulary Constraints

The content creator shall be capable of creating an Ethnicity code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10073, listed below.

Table 6.5.5.25-1: Ethnicity 1.3.6.1.4.1.19376.1.4.1.6.5.10073

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
2135-2	HL7 Ethnicity	Hispanic or Latino			
2186-5	HL7 Ethnicity	Not Hispanic or Latino			

6.5.5.26 Graft Type - Vocabulary Constraints

The content creator shall be capable of creating a Graft Type code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11527, listed below.

Table 6.5.5.26-1: Graft Type 1.3.6.1.4.1.19376.1.4.1.6.5.11527

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
261402001	SNOMED	LIMA Graft			
100000858	ACC-Internal	Not in Graft			
100000861	ACC-Internal	Other artery			
181367001	SNOMED	Vein			

6.5.5.27 Hematoma Size - Vocabulary Constraints

The content creator shall be capable of creating a Hematoma Size code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10027, listed below.

Table 6.5.5.27-1: Hematoma Size 1.3.6.1.4.1.19376.1.4.1.6.5.10027

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000308	ACC-Internal	<3 cm			
100000311	ACC-Internal	>10 cm			
100000310	ACC-Internal	>5-10 cm			
100000309	ACC-Internal	3-5 cm			

6.5.5.28 History and Risk Factors Observation - Vocabulary Constraints

The content creator shall be capable of creating a History and Risk Factors Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10094, listed below.

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Table 6.5.5.28-1: History and Risk Factors Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
62914000	SNOMED	Cerebrovascular Disease	BL		
413839001	SNOMED	Chronic Lung Disease	BL		
77176002	SNOMED	Current/Recent Smoker (w/in 1 year)	BL		
105502003	SNOMED	Dependence on renal dialysis	BL		
73211009	SNOMED	Diabetes Mellitus	BL		
100000805	ACC-Internal	Diabetic Therapy	CD	VS:Diabetic Therapy	
370992007	SNOMED	Dyslipidemia	BL		
134439009	SNOMED	Family history of premature coronary heart disease	BL		
84114007	SNOMED	Heart failure	BL		
38341003	SNOMED	Hypertension	BL		
22298006	SNOMED	MI	BL		
399957001	SNOMED	Peripheral Arterial Disease	BL		

6.5.5.29 History and Risk Factors Procedure - Vocabulary Constraints

The content creator shall be capable of creating a History and Risk Factors Procedure code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10095, listed below.

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Table 6.5.5.29-1: History and Risk Factors Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10095

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
232717009	SNOMED	CABG			
415070008	SNOMED	PCI			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
73544002	SNOMED	Valve Surgery/Procedure			

6.5.5.30 Intracoronary Device - Vocabulary Constraints

The content creator shall be capable of creating an Intracoronary Device code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11530, listed below. The Intracoronary Device list in CathPCI registry is dynamic; participant can download and import the up-to-date list into their application from the NCDR website https://www.ncdr.com/webncdr/CathPCI/Home/technologydownload?TechDownType=csv&DynamicList=Device&SortBy=Device%20ID. There is an effective and expiration date associated with each Intracoronary Device and only devices in effect at the time of the patient's date of admission should be collected and/or available for selection in the application. Intracoronary Device ID is used as the code and the code system is named in the *Code System Name* column. The coding system is ACC Intracoronary Device.

Table 6.5.5.30-1: Intracoronary Device 1.3.6.1.4.1.19376.1.4.1.6.5.11530

Effective Date	Expiration Date	Device ID	Code System Name	Device Name	Manufacturer	Dimensions Required	Device Type
1/1/2008	12/31/2015	1	ACC-Intracoronary Device	Sample 1 Name	Manufacturer 1 Name	Y	Bare Metal Stent
1/1/2008		2	ACC-Intracoronary Device	Sample 2 Name	Manufacturer 2 Name	Y	Covered Stent
1/1/2008		3	ACC-Intracoronary Device	Sample 3 Name	Manufacturer 1 Name	Y	Balloon
1/1/2008		4	ACC-Intracoronary Device	Sample 4 Name	Manufacturer 2 Name	Y	Balloon
1/1/2008		5	ACC-Intracoronary Device	Sample 5 Name	Manufacturer 1 Name	Y	Cutting Balloon
1/1/2008		6	ACC-Intracoronary Device	Sample 6 Name	Manufacturer 2 Name	N	Extraction Catheter

6.5.5.31 Laboratory Result - Vocabulary Constraints

The content creator shall be capable of creating a Post-procedure Laboratory Result code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11536, listed below.

Table 6.5.5.31-1: Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.11536

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
2157-6	LOINC	CK	BL		① SNOMED:17621005(Normal) from VS: Laboratory Result Modifier
13969-1	LOINC	CKMB	PQ	UOM:ng/mL	
2160-0	LOINC	Creatinine	PQ	UOM:mg/dL	
718-7	LOINC	HgB	PQ	UOM:g/dL	
10839-9	LOINC	Troponin I	PQ	UOM:ng/mL	
6598-7	LOINC	Troponin T	PQ	UOM:ng/mL	

6.5.5.32 Laboratory Result Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Laboratory Result Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11537, listed below.

Table 6.5.5.32-1: Laboratory Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11537

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
17621005	SNOMED	Normal	BL		

6.5.5.33 Lesion Complexity Finding - Vocabulary Constraints

The content creator shall be capable of creating a Lesion Complexity Finding code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10051, listed below.

Table 6.5.5.33-1: Lesion Complexity Finding 1.3.6.1.4.1.19376.1.4.1.6.5.10051

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000584	ACC-Internal	High/C Lesion			
100000583	ACC-Internal	Non-High/Non-C Lesion			

6.5.5.34 Lesion Procedure - Vocabulary Constraints

The content creator shall be capable of creating a Lesion Procedure code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10116, listed below.

Table 6.5.5.34-1: Lesion Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10116

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
431558000	SNOMED	FFR Procedure	BL		① SNOMED:371842003(FFR Ratio) from VS:Lesion Procedure Modifier
431945005	SNOMED	IVUS			

6.5.5.35 Lesion Procedure Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Lesion Procedure Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10121, listed below.

Table 6.5.5.35-1: Lesion Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10121

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
421327009	SNOMED	Coronary artery stent thrombosis	BL		
371842003	SNOMED	FFR Ratio	PQ	UOM:%	
371893007	SNOMED	Restenotic lesion of coronary artery	BL		
100000856	ACC-Internal	Stent Type	CD	VS:Stent Device Type	

6.5.5.36 Location of Lesion in Graft - Vocabulary Constraints

The content creator shall be capable of creating a Location of Lesion in Graft code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11528, listed below.

Table 6.5.5.36-1: Location of Lesion in Graft 1.3.6.1.4.1.19376.1.4.1.6.5.11528

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000863	ACC-Internal	Aortic			
100000864	ACC-Internal	Body			
100000865	ACC-Internal	Distal			

6.5.5.37 Location where Procedure was performed - Vocabulary Constraints

The content creator shall be capable of creating a Location where Procedure was performed code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11529, listed below.

Table 6.5.5.37-1: Location where Procedure was performed 1.3.6.1.4.1.19376.1.4.1.6.5.11529

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000870	ACC-Internal	At your facility			
100000871	ACC-Internal	Transferred to other facility			

6.5.5.38 Medication Administration Response - Vocabulary Constraints

The content creator shall be capable of creating a Medication Administration Response code selected from the Value Set *1.3.6.1.4.1.19376.1.4.1.6.5.10062*, listed below.

Table 6.5.5.38-1: Medication Administration Response 1.3.6.1.4.1.19376.1.4.1.6.5.10062

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000620	ACC-Internal	Blinded			
100000619	ACC-Internal	Contraindicated			
100000617	ACC-Internal	No			
100000618	ACC-Internal	Yes			

6.5.5.39 Non-system reason for delays for PCI - Vocabulary Constraints

The content creator shall be capable of creating a Non-system reason for delays for PCI code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10041, listed below.

4630 **Table 6.5.5.39-1: Non-system reason for delays for PCI 1.3.6.1.4.1.19376.1.4.1.6.5.10041**

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000881	ACC-Internal	Difficult vascular access			
100000348	ACC-Internal	Difficult vascular access cardiac arrest and/or need for intubation before PCI.			
100000350	ACC-Internal	Difficulty crossing the culprit lesion during the PCI.			
100000352	ACC-Internal	None			
100000351	ACC-Internal	Other			
100000349	ACC-Internal	Patient delays in providing consent for the procedure.			

6.5.5.40 NullFlavor - Vocabulary Constraints

The content creator shall be capable of creating a NullFlavor code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10075, listed below.

4635 **Table 6.5.5.40-1: NullFlavor 1.3.6.1.4.1.19376.1.4.1.6.5.10075**

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
NA	HL7NullFlavor	Not Applicable			
NAV	HL7NullFlavor	Not Available			
UNK	HL7NullFlavor	Unknown			

6.5.5.41 NYHA Classification - Vocabulary Constraints

The content creator shall be capable of creating a NYHA Classification code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10029, listed below.

Table 6.5.5.41-1: NYHA Classification 1.3.6.1.4.1.19376.1.4.1.6.5.10029

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
420300004	SNOMED	NYHA Class I			
421704003	SNOMED	NYHA Class II			
420913000	SNOMED	NYHA Class III			
422293003	SNOMED	NYHA Class IV			

6.5.5.42 Patient Demographic Observation - Vocabulary Constraints

The content creator shall be capable of creating a Patient Demographic Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10101, listed below.

Table 6.5.5.42-1: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10101

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
397731000	SNOMED	Ethnicity	CD	VS:Ethnicity	
103579009	SNOMED	Race	CD	VS:Person Race	

6.5.5.43 Payor Category - Vocabulary Constraints

The content creator shall be capable of creating a Payor Category code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10096, listed below.

Table 6.5.5.43-1: Payor Category 1.3.6.1.4.1.19376.1.4.1.6.5.10096

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000811	ACC-Internal	Indian Health Service			
100000808	ACC-Internal	Medicaid			
100000807	ACC-Internal	Medicare			
100000809	ACC-Internal	Military Health Care			
100000812	ACC-Internal	Non-US Insurance			
100000813	ACC-Internal	None			
100000806	ACC-Internal	Private Health Insurance			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000810	ACC-Internal	State-Specific Plan (non-Medicaid)			

6.5.5.44 Person Race - Vocabulary Constraints

The content creator shall be capable of creating a Person Race code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10077, listed below.

Table 6.5.5.44-1: Person Race 1.3.6.1.4.1.19376.1.4.1.6.5.10077

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
1002-5	HL7 Race	American Indian / Alaska native			
2028-9	HL7 Race	Asian			
2054-5	HL7 Race	Black / African American			
2076-8	HL7 Race	Native Hawaiian / Pacific Islander			
2131-1	HL7 Race	White			

6.5.5.45 Person Sex - Vocabulary Constraints

The content creator shall be capable of creating a Person Sex code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10078, listed below.

Table 6.5.5.45-1: Person Sex 1.3.6.1.4.1.19376.1.4.1.6.5.10078

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
F	HL7 Administrative Gender	Female			
M	HL7 Administrative Gender	Male			

6.5.5.46 Post-intervention Lesion Observation - Vocabulary Constraints

The content creator shall be capable of creating a Post-intervention Lesion Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10138, listed below.

Table 6.5.5.46-1: Post-intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10138

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
233970002	SNOMED	Coronary artery stenosis	PQ	UOM:%	
100000868	ACC-Internal	Intracoronary Device Deployed	BL		
371863001	SNOMED	TIMI Flow Finding	CD	VS:TIMI Flow Grade	

6.5.5.47 Pre-intervention Lesion Observation - Vocabulary Constraints

The content creator shall be capable of creating a Pre-intervention Lesion Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10135, listed below.

Table 6.5.5.47-1: Pre-intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10135

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
371894001	SNOMED	Bifurcation Lesion	BL		
233970002	SNOMED	Coronary artery stenosis	PQ	UOM:%	
398274000	SNOMED	Coronary artery thrombosis	BL		
100000290	ACC-Internal	Coronary occlusion	BL		
371895000	SNOMED	Culprit Lesion	BL		
251021001	SNOMED	Graft Type	CD	VS:Graft Type	
100000851	ACC-Internal	Guidewire Across Lesion	BL		
100000866	ACC-Internal	Lesion Complexity	CD	VS:Lesion Complexity Finding	
410668003	SNOMED	Lesion Length	PQ	UOM:mm	
100000862	ACC-Internal	Location of Lesion in Graft	CD	VS:Location of Lesion in Graft	

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
373108000	SNOMED	Previously Treated Lesion	BL		① SNOMED: 42137009 (In-Stent Restenosis) from VS: Pre-intervention Lesion Observation Modifier ② SNOMED: 264579008 (In-Stent Thrombosis) from VS: Pre-intervention Lesion Observation Modifier ③ SNOMED: 369690090 (Placement of Stent) from VS: Pre-intervention Lesion Observation Modifier ④ SNOMED: 7389001 (Time frame) from VS: Pre-intervention Lesion Observation Modifier ⑤ ACC-Internal: 100000856 (Stent Type) from VS: Pre-intervention Lesion Observation Modifier
25103009	SNOMED	TIMI Flow Finding	CD	VS:TIMI Flow Grade	

6.5.5.48 Pre-intervention Lesion Observation Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Pre-intervention Lesion Observation Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10132, listed below.

Table 6.5.5.48-1: Pre-intervention Lesion Observation Modifier1.3.6.1.4.1.19376.1.4.1.6.5.10132

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
42137009	SNOMED	In-Stent Restenosis	BL		
264579008	SNOMED	In-Stent Thrombosis	BL		
36969009	SNOMED	Placement of stent in coronary artery	BL		
100000856	ACC-Internal	Stent Type	CD	VS:Stent Device Type	
7389001	SNOMED	Time frame	CD	VS:Previously Treated Lesion Timeframe	

6.5.5.49 Pre-procedure Indication - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Indication code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10122, listed below.

Table 6.5.5.49-1: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.10122

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
84114007	SNOMED	Acute heart failure	BL		
134438001	SNOMED	Canadian Cardiovascular Society classification of angina	CD	VS:CCS Classification	
410429000	SNOMED	Cardiac arrest w/in 24 hours	BL		
100000872	ACC-Internal	Cardiac Transplant Evaluation	BL		
100000873	ACC-Internal	Cardiac Transplant Evaluation Type	CD	VS:Cardiac Transplant Evaluation Type	
89138009	SNOMED	Cardiogenic shock w/in 24 hours	BL		

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000714	ACC-Internal	Cardiomyopathy or Left Ventricular Systolic Dysfunction	BL		
53741008	SNOMED	Coronary Artery Disease	BL		① ACC-Internal:100000501(Presentation) from VS:Pre-procedure Indication Modifier ② ACC-Internal:100000876(Effective Time Estimated) from VS:Pre-procedure Indication Modifier
420816009	SNOMED	New York Heart Association Classification	CD	VS:NYHA Classification	
401303003	SNOMED	STEMI or STEMI Equivalent	BL		① SNOMED:738900 1(Time frame (Qualifier)) from VS:Pre-procedure Indication Modifier

6.5.5.50 Pre-procedure Indication Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Indication Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10123, listed below.

4685 **Table 6.5.5.50-1: Pre-procedure Indication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10123**

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000876	ACC-Internal	Effective Time Estimated	BL		
100000501	ACC-Internal	Presentation	CD	VS:CAD Presentation	

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
7389001	SNOMED	Time frame	CD	VS:STEMI First Noted Timeframe	

6.5.5.51 Pre-procedure Laboratory Result - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Laboratory Result code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11533, listed below.

Table 6.5.5.51-1: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.11533

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
2157-6	LOINC	CK	BL		① SNOMED:1762 1005(Normal) from VS: Laboratory Result Modifier
13969-1	LOINC	CKMB	PQ	UOM:ng/mL	
2160-0	LOINC	Creatinine	PQ	UOM:mg/dL	
718-7	LOINC	HgB	PQ	UOM:g/dL	
10839-9	LOINC	Troponin I	PQ	UOM:ng/mL	
6598-7	LOINC	Troponin T	PQ	UOM:ng/mL	

6.5.5.52 Pre-procedure Medication - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Medication code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10103, listed below. up-to-date

Table 6.5.5.52-1: Pre-procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.10103

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
33252009	SNOMED	Beta Blocker			
48698004	SNOMED	Calcium channel blocking agent			
31970009	SNOMED	Long Acting Nitrates			
100000621	ACC-Internal	Other Anti-Anginal Agent			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
35829	RxNorm	Ranolazine			

6.5.5.53 Pre-procedure Procedure - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Procedure code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10104, listed below.

Table 6.5.5.53-1: Pre-procedure Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10104

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
110466009	SNOMED	Pre-Operative cardiovascular examination			① ACC-Internal:100000319(Non-Cardiac Surgery) from VS:Pre-Procedure Procedure Modifier
307521008	SNOMED	Thrombolytic			① SNOMED:401303003(STEMI) from VS:Pre-Procedure Procedure Modifier

6.5.5.54 Pre-Procedure Procedure Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Pre-Procedure Procedure Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10105, listed below.

Table 6.5.5.54-1: Pre-Procedure Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10105

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000319	ACC-Internal	Non-Cardiac Surgery	BL		
401303003	SNOMED	STEMI	BL		

6.5.5.55 Pre-procedure Test Result - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Test Result code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11534, listed below.

Table 6.5.5.55-1: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.11534

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
59255-0	LOINC	Cardiac CTA	BL		① ACC-Internal:100000874(Stress Test Result) from VS:Pre-procedure Test Result Modifier
450360000	SNOMED	Coronary Calcium Score	BL		① ACC-Internal:100000647(Stress Test Result) from VS:Pre-procedure Test Result Modifier
18752-6	LOINC	Exercise stress test study	BL		① ACC-Internal:100000854(Stress Test Result) from VS:Pre-procedure Test Result Modifier ② ACC-Internal:100000855(Risk/Extent of Ischemia) from VS:Pre-procedure Test Result Modifier
18107-3	LOINC	Stress Echocardiogram	BL		① ACC-Internal:100000854(Stress Test Result) from VS:Pre-procedure Test Result Modifier ② ACC-Internal:100000855(Risk/Extent of Ischemia) from VS:Pre-procedure Test Result Modifier
100000653	ACC-Internal	Stress or Imaging Test	BL		

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
49569-7	LOINC	Stress Testing w/Spect MPI	BL		① ACC-Internal:100000854(Stress Test Result) from VS:Pre-procedure Test Result Modifier ② ACC-Internal:100000855(Risk/Extent of Ischemia) from VS:Pre-procedure Test Result Modifier
58750-1	LOINC	Stress Testing with CMR	BL		① ACC-Internal:100000854(Stress Test Result) from VS:Pre-procedure Test Result Modifier ② ACC-Internal:100000855(Risk/Extent of Ischemia) from VS:Pre-procedure Test Result Modifier

6.5.5.56 Pre-procedure Test Result Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Pre-procedure Test Result Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11535, listed below.

Table 6.5.5.56-1: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11535

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000647	ACC-Internal	Calcium Score	PQ		
100000874	ACC-Internal	Cardiac CTA Results	CD	VS:Cardiac CTA Results	
17621005	SNOMED	Normal	BL		
100000855	ACC-Internal	Risk/Extent of Ischemia	CD	VS:Risk/Extent of Ischemia	
100000854	ACC-Internal	Stress Test Result	CD	VS:Stress Test Result	

6.5.5.57 Previously Treated Lesion Timeframe - Vocabulary Constraints

The content creator shall be capable of creating a Previously Treated Lesion Timeframe code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10040, listed below.

Table 6.5.5.57-1: Previously Treated Lesion Timeframe 1.3.6.1.4.1.19376.1.4.1.6.5.10040

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000521	ACC-Internal	< 1 month			
100000525	ACC-Internal	>2 years			
100000524	ACC-Internal	1-2 years			
100000522	ACC-Internal	1-5 months			
100000523	ACC-Internal	6-12 months			
100000526	ACC-Internal	Time unknown			

6.5.5.58 Procedure - Vocabulary Constraints

The content creator shall be capable of creating a Procedure code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10136, listed below.

Table 6.5.5.58-1: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10136

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
112695004	SNOMED	Closure Procedure			
41976001	SNOMED	Diagnostic Cath			
44491008	SNOMED	Fluoroscopy Procedure			① SNOMED:446996006(Dosage of radiation exposure (observable entity) from VS:Procedure Observation
39921700	SNOMED	IABP			① SNOMED:738900 1(Time frame) from VS:Procedure Observation

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
232957001	SNOMED	Other Mechanical Ventricular Support			① SNOMED:738900 1(Time frame) from VS:Procedure Observation
OTH	HL7NullFlavor	Other Procedure			
415070008	SNOMED	PCI			

6.5.5.59 Procedure Medication - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Medication code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10053, listed below. The procedure medication list in CathPCI registry is dynamic, participant can download and import the up-to-date list into their application from the NCDR website https://www.ncdr.com/webncdr/CathPCI/Home/technologydownload?TechDownType=csv&DynamicList=Medication&SortBy=Medication%20ID. There is an effective and expiration date associated with each medication and only medications in effect at the time of the patient's date of admission should be collected and/or available for selection in the application.

Table 6.5.5.59-1: Procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.10053

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
1191	RxNorm	Aspirin			
60819	RxNorm	Bivalirudin			
32968	RxNorm	Clopidogrel			
414010005	SNOMED	Direct Thrombin inhibitor			
321208	RxNorm	Fondaparinux			
986894	RxNorm	GP IIB/IIA			
87233003	SNOMED	Low Molecular Weight Heparin			
613391	RxNorm	Prasugrel			
1116632	RxNorm	Ticagrelor			
10594	RxNorm	Ticlopidine			
96382006	SNOMED	Unfractionated Heparin			

6.5.5.60 Procedure Observation - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10124, listed below.

4740 **Table 6.5.5.60-1: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124**

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
7389001	SNOMED	Cardio assist device timing	CD	VS:Timing of Cardioassist Device	
89138009	SNOMED	Cardiogenic shock at start of the PCI	BL		
446996006	SNOMED	Dosage of radiation exposure	PQ	UOM:mGy	
100000353	ACC-Internal	Emergency department patient visit date	TS.Date		
404229004	SNOMED	First Device Activation	TS.Date		
4563007	SNOMED	Hospital admission, transfer from other hospital or healthcare facility	BL		
100000886	ACC-Internal	Lesion	BL		
100000880	ACC-Internal	PCI Indication	CD	VS:Reason PCI is performed	
10230-1	LOINC	Pre-PCI LVEF	PQ	UOM:%	
272125009	SNOMED	Procedure Priority	CD	VS:Procedure Priority	
373786007	SNOMED	Reasons for treatment delay	CD	VS:Non-system reason for delays for PCI	
100000180	ACC-Internal	STEMI First Noted	CD	VS:STEMI First Noted Timeframe	
100000879	ACC-Internal	Treatment Recommendation			

6.5.5.61 Procedure Priority - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Priority code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10048, listed below.

Table 6.5.5.61-1: Procedure Priority 1.3.6.1.4.1.19376.1.4.1.6.5.10048

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
103390000	SNOMED	Elective			
25876001	SNOMED	Emergency			
257950002	SNOMED	Salvage			
103391001	SNOMED	Urgent			

6.5.5.62 Procedure Session Event - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Session Event code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11532, listed below.

Table 6.5.5.62-1: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.11532

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
36225005	SNOMED	Acute renal failure due to procedure	BL		
131148009	SNOMED	Bleeding	BL		① ACC-Internal:100000902(Bleeding Location) from VS:Procedure Session Observation Modifier
89138009	SNOMED	Cardiogenic shock	BL		
230690007	SNOMED	Cerebrovascular accident	BL		
234010000	SNOMED	Coronary artery perforation	BL		
84114007	SNOMED	Heart failure	BL		

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
213262007	SNOMED	Hematoma	BL		① ACC-Internal:100000902(Bleeding Location) from VS:Procedure Session Event Modifier ② ACC-Internal:100000902(Hematoma Size) from VS:Hematoma Size
230706003	SNOMED	Hemorrhagic cerebral infarction	BL		
22298006	SNOMED	MI	BL		
71493000	SNOMED	PRBC Transfusion	BL		① LOINC:718-7(HgB) from VS:Procedure Session Event Modifier
100000883	ACC-Internal	Significant Dissection	CD	VS:Reason PCI is performed	
35304003	SNOMED	Tamponade	BL		
28104001	SNOMED	Vascular Complication	BL		

6.5.5.63 Procedure Session Event Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Session Event Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11538, listed below.

4755 **Table 6.5.5.63-1: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.11538**

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000007	ACC-Internal	Hematoma Size	CD	VS:Hematoma Size	
718-7	LOINC	HgB	PQ	UOM:g/dL	

6.5.5.64 Procedure Session Observation - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Session Observation code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10117, listed below.

Table 6.5.5.64-1: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10117

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
311788003	SNOMED	Arterial Access Site	CD	VS:Arterial Access Site	
233970002	SNOMED	Coronary artery stenosis	PQ	UOM:%	① ACC-Internal:100008882(Coronary Territory) from VS:Procedure Session Observation Modifier
253727002	SNOMED	Variant dominance of coronary circulation	CD	VS:Dominance of the coronary anatomy	

6.5.5.65 Procedure Session Observation Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Procedure Session Observation Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10119, listed below.

Table 6.5.5.65-1: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10119

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000902	ACC-Internal	Bleeding Location	CD	VS:Bleeding Location	
100000888	ACC-Internal	Coronary Territory	CD	VS:Coronary Territory	
17621005	SNOMED	Normal	BL		
NA	HL7NullFlavor	Not Applicable	BL		

6.5.5.66 Reason for CABG - Vocabulary Constraints

The content creator shall be capable of creating a Reason for CABG code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10087, listed below.

Table 6.5.5.66-1: Reason for CABG 1.3.6.1.4.1.19376.1.4.1.6.5.10087

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000709	ACC-Internal	PCI complication			
100000710	ACC-Internal	PCI failure without clinical deterioration			
100000712	ACC-Internal	PCI/CABG hybrid procedure			
100000711	ACC-Internal	Treatment of CAD without PCI immediately preceding CABG			

6.5.5.67 Reason PCI is performed - Vocabulary Constraints

The content creator shall be capable of creating a Reason PCI is performed code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10042, listed below.

Table 6.5.5.67-1: Reason PCI is performed 1.3.6.1.4.1.19376.1.4.1.6.5.10042

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000570	ACC-Internal	Immediate PCI for STEMI			
100000577	ACC-Internal	Other Reason for Procedure			
100000575	ACC-Internal	PCI for high risk Non-STEMI or unstable angina			
100000573	ACC-Internal	PCI for STEMI (Stable after successful full-dose Thrombolysis)			
100000572	ACC-Internal	PCI for STEMI (Stable, >12 hrs from Sx onset)			
100000571	ACC-Internal	PCI for STEMI (Unstable, >12 hrs from Sx onset)			

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000574	ACC-Internal	Rescue PCI for STEMI (after failed full-dose lytics)			
100000576	ACC-Internal	Staged PCI			

6.5.5.68 Risk/Extent of Ischemia - Vocabulary Constraints

The content creator shall be capable of creating a Risk/Extent of Ischemia code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10057, listed below.

Table 6.5.5.68-1: Risk/Extent of Ischemia 1.3.6.1.4.1.19376.1.4.1.6.5.10057

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000639	ACC-Internal	High			
100000640	ACC-Internal	Indeterminant			
100000638	ACC-Internal	Intermediate			
100000637	ACC-Internal	Low			

6.5.5.69 STEMI First Noted Timeframe - Vocabulary Constraints

The content creator shall be capable of creating a STEMI First Noted Timeframe code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10049, listed below.

Table 6.5.5.69-1: STEMI First Noted Timeframe 1.3.6.1.4.1.19376.1.4.1.6.5.10049

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000578	ACC-Internal	During First ECG			
100000579	ACC-Internal	During Subsequent ECG			

6.5.5.70 Stent Device Type - Vocabulary Constraints

The content creator shall be capable of creating a Stent Device Type code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10050, listed below.

Table 6.5.5.70-1: Stent Device Type 1.3.6.1.4.1.19376.1.4.1.6.5.10050

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
411191007	SNOMED	DES			
100000581	ACC-Internal	Non-DES			
UNK	HL7NullFlavor	Stent Type unknown			

6.5.5.71 Stress Test Result - Vocabulary Constraints

The content creator shall be capable of creating a Stress Test Result code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10055, listed below.

Table 6.5.5.71-1: Stress Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.10055

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
280416009	SNOMED	Indeterminant			
394426005	SNOMED	Negative			
394424008	SNOMED	Positive			
103329007	SNOMED	Unavailable			

6.5.5.72 Substance Administration Modifier - Vocabulary Constraints

The content creator shall be capable of creating a Substance Administration Modifier code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10126, listed below.

Table 6.5.5.72-1: Substance Administration Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10126

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
432102000	SNOMED	Administration of substance	cd	VS:Medication Administration Response	

6.5.5.73 TIMI Flow Grade - Vocabulary Constraints

The content creator shall be capable of creating a TIMI Flow Grade code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10038, listed below.

Table 6.5.5.73-1: TIMI Flow Grade 1.3.6.1.4.1.19376.1.4.1.6.5.10038

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
371867000	SNOMED	TIMI grade 0: no perfusion			
371866009	SNOMED	TIMI grade 1: penetration without perfusion			
371864007	SNOMED	TIMI grade 2: partial perfusion			
371865008	SNOMED	TIMI grade 3: complete perfusion			

6.5.5.74 Timing of Cardioassist Device - Vocabulary Constraints

The content creator shall be capable of creating a Timing of Cardioassist Device code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10031, listed below.

Table 6.5.5.74-1: Timing of Cardioassist Device 1.3.6.1.4.1.19376.1.4.1.6.5.10031

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000320	ACC-Internal	In place at start of procedure			
100000322	ACC-Internal	Inserted after PCI has begun			
100000321	ACC-Internal	Inserted during procedure and prior to PCI			

6.5.5.75 Vital Sign - Vocabulary Constraints

The content creator shall be capable of creating a Vital Sign code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.11540, listed below.

Table 6.5.5.75-1: Vital Sign 1.3.6.1.4.1.19376.1.4.1.6.5.11540

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
8302-2	LOINC	Height	PQ	UOM:CM	
3141-9	LOINC	Weight	PQ	UOM:KG	

6.5.5.76 Yes/No/Ineligible Response - Vocabulary Constraints

The content creator shall be capable of creating a Yes/No/Ineligible Response code selected from the Value Set 1.3.6.1.4.1.19376.1.4.1.6.5.10086, listed below.

Table 6.5.5.76-1: Yes/No/Ineligible Response 1.3.6.1.4.1.19376.1.4.1.6.5.10086

Code	Code System	Display Name	Value Data Type	Value Set Name / Unit of Measure	Modifier Element (Value Set/Code)
100000706	ACC-Internal	Ineligible			
100000705	ACC-Internal	No			
100000704	ACC-Internal	Yes			

6.5.6 NCDR CathPCI Registry Element Mapping

The table included in this section provides the mapping between CathPCI Registry V4.4 dictionary element and the RCS-C Content Profile element. The intent is to provide a quick way for the vendors to map their current implementation to the content profile and help them code the elements. The mapping table is divided into two sections, the left side representing information from the current CathPCI Registry V4.4 dictionary and the right side the RCS-C Content Profile details. Each element in the CathPCI data dictionary could map to one or more fields in the content profile, so a single row on the left section may be mapped to multiple ones on the right (RCSC-C). Legend below describes each column in the table.

- NCDR CathPCI V4.4 Registry Element Reference:
  - **Sequence No:** The Sequence Number is the unique number associated with the element in the data registry.
  - **Name:** The Name is the unique name associated with the element in the data registry.
  - **Parent ID:** The Parent ID is the sequence number of the "parent" for this element. That is, the parent is the element whose value determines whether this element is to be present.
  - **Parent Value:** The Parent Value indicates the value or values taken on by the parent element which determine whether an entry in this element is relevant.
  - **Cardinality:** These columns provide information on the conditional presence of an element value. The included statements should be interpreted consistently with the way cardinality is expressed within the conformance statements of this content profile.
    - **Cardinality (Dx Cath):** The Cardinality (Dx Cath) column provides information on whether or not a data element value is needed based on the performance of a diagnostic catheterization procedure.
    - **Cardinality (PCI):** The Cardinality (PCI) column provides information on whether or not a data element value is needed based on the performance of a PCI procedure.
- RCS-C Content Profile CDA Containment Reference:
  - **Template Name:** The name of the template containing the conformance reference which is associated with the dictionary element.
  - **Conformance Reference:** The identifier of the conformance statement(s) that are required to represent the semantics of the dictionary element. For coded element the constraining value set is also specified.

- **Data Type:** The data type of the template element constrained by the conformance reference. For the PQ data type, the Unit of Measure (UOM) is also specified.
- **Value:** The code value and code system for coded elements. This is specified when only one value from the identified value set is required to provide the semantics of the dictionary element.

Following is an example describing how the mapping in the table should be interpreted.

Table 6.5.6.1-1: NCDR CathPCI Registry Element Mapping Example

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type/ UOM	Conformance Reference	Value
				Dx Cath	PCI				
1000	Participant ID			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id//@extension (CONF:RCS-32677).	
1010	Participant Name			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	representedCustodianOrganization/name (CONF:RCS-32392).	
4000	Current/Recent Smoker (w/in 1 year)			(0..0)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factors Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-32304).	77176002 (SNOMED)

This example includes three dictionary elements: 1000-Participant ID; 1010-Participant Name, and 4000-Current/Recent Smoker.

- Participant ID is represented in the Registry Document Header template. It is associated with constraint (CONF:RCS-32677), which is a constraint on the extension component of the id attribute. It is a String data type with no fixed value.
- Participant Name is also represented in the Registry Document Header template. It is associated with constraint (CONF:RCS-32392) , which is a constraint on the name attribute of the representedCustodianOrganization. It is a string data type with no fixed value.
- Current/Recent Smoker is represented in the History and Risk Factors Observation Entry template. It is associated with two constraints (CONF:RCS-32304) and (CONF:RCS-31991); which are constraints on the @code component of the code attribute

and the value attribute respectively. The code attribute is a coded element and the set of allowable values for it are defined in the value set “History and Risk Factor Observation”). It is a concept descriptor data type with a fixed SNOMED code value “77176002”. The value attribute is a Boolean data type and allows True/False. Smoker information is only collected if a PCI procedure is being reported within this document.

Table 6.5.5.1-2: NCDR CathPCI Registry Element Mapping

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
1000	Participant ID			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id/id/@extension (CONF:RCS-32677).	
1010	Participant Name			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	representedCustodianOrganization\name (CONF:RCS-32392).	
1016	Participant NPI			SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	ST	id/@extension (CONF:RCS-33380).	
1020	Time Frame of Data Submission			SHALL (1..1)	SHALL (1..1)	Registry Document Header	IVL<TS>	serviceEvent\effectiveTime (CONF:RCS-32459).	
1040	Transmission Number			SHALL (1..1)	SHALL (1..1)	Registry Document Header	II	Id/@extension (CONF:RCS-33600).	
1050	Vendor Identifier			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id/@extension (CONF:RCS-32453).	
1060	Vendor Software Version			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id/@extension (CONF:RCS-32450).	
1070	Registry Identifier			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id/@extension (CONF:RCS-32440).	
1080	Registry Version			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id/@extension (CONF:RCS-32440).	
2000	Last Name			SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	ST	name/family (CONF:RCS-32167).	
2010	First Name			SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	ST	name/given (CONF:RCS-32168).	
2020	Middle Name			SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	ST	name/given (CONF:RCS-32168).	
2030	SSN	2031	No	SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	ST	id/@extension (CONF:RCS-33018).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
2031	SSN N/A			SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	CD	id/@nullFlavor (CONF:RCS-33016).	NA (HL7NullFlavor)
2040	Patient ID			SHALL (1..1)	SHALL (1..1)	Registry Document Header	ST	id/@extension (CONF:RCS-32178).	
2045	Other ID			MAY (0..1)	MAY (0..1)	Registry Document Header	ST	id/@extension (CONF:RCS-33408).	
2050	Birth Date			SHALL (1..1)	SHALL (1..1)	Registry Document Header	TS	patient\birthTime (CONF:RCS-32171).	
2060	Sex			SHOULD (0..1)	SHOULD (0..1)	Registry Document Header	CD	patient\administrativeGenderCode 1.3.6.1.4.1.19376.1.4.1.6.5.10078 (CONF:RCS-32170).	ValueSet: Person Sex
2070	Race - White			SHOULD (0..1)	SHOULD (0..1)	Patient Demographics Observation Entry	CD	value (CONF:RCS-32408).	2131-1 (HL7 Race)
							CD	@code (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10101) (CONF:RCS-32516).	103579009 (SNOMED)
2071	Race - Black or African American			SHOULD (0..1)	SHOULD (0..1)	Patient Demographics Observation Entry	CD	value (CONF:RCS-32408).	2054-5 (HL7 Race)
							CD	@code (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10101) (CONF:RCS-32516).	103579009 (SNOMED)
2072	Race - Asian			SHOULD (0..1)	SHOULD (0..1)	Patient Demographics Observation Entry	CD	value (CONF:RCS-32408).	2028-9 (HL7 Race)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0101) (CONF:RCS-32516).	103579009 (SNOMED)
2073	Race - American Indian or Alaskan Native			SHOULD (0..1)	SHOULD (0..1)	Patient Demographics Observation Entry	CD	value (CONF:RCS-32408).	1002-5 (HL7 Race)
							CD	@code (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0101) (CONF:RCS-32516).	103579009 (SNOMED)
2074	Race - Native Hawaiian or Pacific Islander			SHOULD (0..1)	SHOULD (0..1)	Patient Demographics Observation Entry	CD	value (CONF:RCS-32408).	2076-8 (HL7 Race)
							CD	@code (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0101) (CONF:RCS-32516).	103579009 (SNOMED)
2076	Hispanic or Latino Ethnicity			SHOULD (0..1)	SHOULD (0..1)	Patient Demographics Observation Entry	CD	value (CONF:RCS-32408).	ValueSet: Ethnicity
							CD	@code (ValueSet: Patient Demographic Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0101) (CONF:RCS-32516).	397731000 (SNOMED)
3000	Arrival Date			SHALL (1..1)	SHALL (1..1)	Encounter Entry	TS	effectiveTime\low (CONF:RCS-32425).	
3001	Arrival Time	3000	Date	SHOULD (0..1)	SHOULD (0..1)	Encounter Entry	TS	effectiveTime\low (CONF:RCS-32425).	
3005	Patient Zip Code	3006	No	SHOUL	SHOUL	Encounter Administrative	ST	value (CONF:RCS-33490).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
				D (0..1)	D (0..1)	Entry	CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000887 (ACC-Internal)
3006	Zip Code N/A			SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000887 (ACC-Internal)
							CS	value\@nullFlavor (CONF:RCS-32673).	NAV (HL7NullFlavor)
3010	Admit Source			(0..0)	SHOULD (0..1)	Encounter Administrative Entry	CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000800 (ACC-Internal)
							CD	value (CONF:RCS-32004).	ValueSet: Admission Source
3020	Insurance Payors - Private Health Insurance	3027	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	value (CONF:RCS-32004).	100000806 (ACC-Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3021	Insurance Payors - Medicare	3027	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	value (CONF:RCS-32004).	100000807 (ACC-Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3022	Insurance Payors -	3027	No	SHOUL	SHOUL	Encounter	CD	value (CONF:RCS-32004).	100000808 (ACC-

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
	Medicaid			D (0..1)	D (0..1)	Administrative Entry			Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3023	Insurance Payors - Military Health Care	3027	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	value (CONF:RCS-32004).	100000809 (ACC-Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3024	Insurance Payors - State-Specific Plan	3027	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	value (CONF:RCS-32004).	100000810 (ACC-Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3025	Insurance Payors - Indian Health Service	3027	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	value (CONF:RCS-32004).	100000811 (ACC-Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3026	Insurance Payors - Non-US Insurance	3027	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	CD	value (CONF:RCS-32004).	100000812 (ACC-Internal)
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3027	Insurance Payors - None			SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative	CD	value (CONF:RCS-32004).	100000813 (ACC-Internal)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
						Entry	CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000852 (ACC-Internal)
3030	Health Insurance Claim Number			SHOULD (0..1)	SHOULD (0..1)	Encounter Administrative Entry	ST	value (CONF:RCS-32004).	
							CD	@code (ValueSet: Encounter Administrative 1.3.6.1.4.1.19376.1.4.1.6.5.1 1531) (CONF:RCS-33494).	100000801 (ACC-Internal)
4000	Current/Recent Smoker (w/in 1 year)			(0..0)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	77176002 (SNOMED)
4005	Hypertension			(0..0)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	38341003 (SNOMED)
4010	Dyslipidemia			(0..0)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	370992007 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
4015	Family History of Premature CAD			SHOULD (0..1)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-32304).	134439009 (SNOMED)
4020	Prior MI			SHOULD (0..1)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-32304).	22298006 (SNOMED)
4025	Prior Heart Failure			(0..0)	SHOULD (0..1)	History and Risk Factors Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-32304).	84114007 (SNOMED)
4030	Prior Valve Surgery/Procedure			(0..0)	SHOULD (0..1)	History and Risk Factors Procedure Entry	CD	@code (ValueSet: History and Risk Factor Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10095) (CONF:RCS-32495).	73544002 (SNOMED)
							BL	@negationInd (CONF:RCS-32498).	
4035	Prior PCI			SHOULD (0..1)	SHOULD (0..1)	History and Risk Factors Procedure Entry	CD	@code (ValueSet: History and Risk Factor Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10095) (CONF:RCS-32495).	415070008 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							BL	@negationInd (CONF:RCS-32498).	
4040	Most Recent PCI Date	4035	Yes	(0..0)	SHOULD (0..1)	History and Risk Factors Procedure Entry	TS	effectiveTime (CONF:RCS-32496).	
4045	Prior CABG			SHOULD (0..1)	SHOULD (0..1)	History and Risk Factors Procedure Entry	CD	@code (ValueSet: History and Risk Factor Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10095) (CONF:RCS-32495).	232717009 (SNOMED)
							BL	@negationInd (CONF:RCS-32498).	
4050	Most Recent CABG Date	4035	Yes	(0..0)	SHOULD (0..1)	History and Risk Factors Procedure Entry	TS	effectiveTime (CONF:RCS-32496).	
4055	Height			SHOULD (0..1)	SHOULD (0..1)	Vital Sign Entry	PQ (UOM =CM)	value (CONF:RCS-33457).	
							CD	@code (ValueSet: Vital Sign 1.3.6.1.4.1.19376.1.4.1.6.5.11540) (CONF:RCS-32304).	8302-2 (LOINC)
4060	Weight			SHOULD (0..1)	SHOULD (0..1)	Vital Sign Entry	PQ (UOM =Kg)	value (CONF:RCS-33457).	
							CD	@code (ValueSet: Vital Sign 1.3.6.1.4.1.19376.1.4.1.6.5.11540) (CONF:RCS-32304).	3141-9 (LOINC)
4065	Currently on Dialysis			SHOULD (0..1)	SHOULD (0..1)	History and Risk Factor Observation Entry	BL	value (CONF:RCS-31991).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	105502003 (SNOMED)
4070	Cerebrovascular Disease			(0..0)	SHOULD (0..1)	History and Risk Factor Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	62914000 (SNOMED)
4075	Peripheral Arterial Disease			(0..0)	SHOULD (0..1)	History and Risk Factor Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	399957001 (SNOMED)
4080	Chronic Lung Disease			(0..0)	SHOULD (0..1)	History and Risk Factor Observation Entry	BL	value (CONF:RCS-31991).	
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0094) (CONF:RCS-32304).	413839001 (SNOMED)
4085	Diabetes Mellitus			SHOULD (0..1)	SHOULD (0..1)	History and Risk Factor Observation Entry	BL	value (CONF:RCS-31991).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-32304).	73211009 (SNOMED)
4090	Diabetes Therapy	4085	Yes	(0..0)	SHOULD (0..1)	History and Risk Factor Observation Entry	CD	@code (ValueSet: History and Risk Factor Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10094) (CONF:RCS-331991).	100000805 (ACC-Internal)
							CD	value (CONF:RCS-32370).	ValueSet: Diabetic Therapy
5000	CAD Presentation			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.10122) (CONF:RCS-32987).	53741008 (SNOMED)
							BL	value (CONF:RCS-32981).	
							CD	@code (ValueSet: Pre-procedure Indication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10123) (CONF:RCS-32999).	100000501 (ACC-Internal)
							CD	value (CONF:RCS-32986).	ValueSet: CAD Presentation
5005	Symptom Onset Date	5000	Non-STEMI, STEMI	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	TS	effectiveTime (CONF:RCS-32992).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
5006	Symptom Onset Time	5008	No	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	TS	effectiveTime (CONF:RCS-32992).	
5007	Symptom Onset Time Estimated	5008	No	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	BL	value (CONF:RCS-32986).	
							CD	@code (ValueSet: Pre-procedure Indication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10123) (CONF:RCS-32999).	100000876 (ACC-Internal)
5008	Symptom Onset Time Not Available	5005	Date	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	CD	effectiveTime,\@nullFlavor="NAV" (CONF:RCS-33146).	NAV (HL7NullFlavor)
5010	Thrombolytic	5000	STEMI	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Procedure Entry	CD	code (CONF:RCS-32055).	307521008 (SNOMED)
							BL	@negationInd (CONF:RCS-32436).	
5015	Thrombolytic Therapy Date	5010	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Procedure Entry	TS	effectiveTime (CONF:RCS-32056).	
5016	Thrombolytic Therapy Time	5015	Date	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Procedure Entry	TS	effectiveTime (CONF:RCS-32056).	
5020	Anginal Classification w/in 2 Weeks			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.10122) (CONF:RCS-32987).	134438001 (SNOMED)
							CD	value (CONF:RCS-332891).	ValueSet: CCS Classification

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
5025	Anti-Anginal Medication w/in 2 Weeks			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Medication Entry	CD	@code (ValueSet: Pre-procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0103) (CONF:RCS-32310).	100000652 (ACC-Internal)
							BL	@negationInd (CONF:RCS-32534).	
5026	Beta Blockers	5025	Yes	(0..0)	SHOULD (0..1)	Pre-procedure Medication Entry	CD	@code (ValueSet: Pre-procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0103) (CONF:RCS-32310).	33252009 (SNOMED)
							BL	@negationInd (CONF:RCS-32534).	
5027	Calcium Channel Blockers	5025	Yes	(0..0)	SHOULD (0..1)	Pre-procedure Medication Entry	CD	@code (ValueSet: Pre-procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0103) (CONF:RCS-32310).	48698004 (SNOMED)
							BL	@negationInd (CONF:RCS-32534).	
5028	Long Acting Nitrates	5025	Yes	(0..0)	SHOULD (0..1)	Pre-procedure Medication Entry	CD	@code (ValueSet: Pre-procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0103) (CONF:RCS-32310).	31970009 (SNOMED)
							BL	@negationInd (CONF:RCS-32534).	
5029	Ranolazine	5025	Yes	(0..0)	SHOULD (0..1)	Pre-procedure Medication Entry	CD	@code (ValueSet: Pre-procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0103) (CONF:RCS-32310).	35829 (RxNorm)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							BL	@negationInd (CONF:RCS-32534).	
5030	Other Anti-Anginal Agent	5025	Yes	(0..0)	SHOULD (0..1)	Pre-procedure Medication Entry	CD	@code (ValueSet: Pre-procedure Medicinal Product 1.3.6.1.4.1.19376.1.4.1.6.5.1 0103) (CONF:RCS-32310).	100000621 (ACC-Internal)
							BL	@negationInd (CONF:RCS-32534).	
5040	Heart Failure w/in 2 Weeks			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	BL	value (CONF:RCS-332891).	
							CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0122) (CONF:RCS-32987).	84114007 (SNOMED)
5045	NYHA Class w/in 2 Weeks	5040	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	CD	value (CONF:RCS-332891).	ValueSet: NYHA Classification
							CD	@code (ValueSet: Pre-procedure Indication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0123) (CONF:RCS-32999).	420816009 (SNOMED)
5050	Cardiomyopathy or Left Ventricular Systolic Dysfunction			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	BL	value (CONF:RCS-332891).	
							CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0122) (CONF:RCS-32987).	100000714 (ACC-Internal)
							BL	Value (CONF:RCS-32709)	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
5055	Pre-operative Evaluation Before Non-Cardiac Surgery			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Procedure Entry	CD	@code (ValueSet: Pre-procedure Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0104) (CONF:RCS-32315).	444733009 (SNOMED)
							BL	@negationInd (CONF:RCS-32436).	
							CD	observation,\code (ValueSet: Pre-procedure Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0105) (CONF:RCS-32707).	100000319 (ACC-Internal)
5060	Cardiogenic Shock w/in 24 Hours			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	BL	value (CONF:RCS-32981).	
							CD	@code (ValueSet: Pre-Procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0122) (CONF:RCS-32987).	89138009 (SNOMED)
5065	Cardiac Arrest w/in 24 Hours			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Indication Entry	BL	value (CONF:RCS-32981).	
							CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0122) (CONF:RCS-32987).	410429000 (SNOMED)
5100	Stress or Imaging Studies			SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	BL	value (CONF:RCS-33434).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	100000653 (ACC-Internal)
5200	Standard Exercise Stress Test	5100	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	BL	value (CONF:RCS-33434).	
							CD	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	18752-6 (LOINC)
5201	Stress Test Results	5200	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Stress Test Result
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000854 (ACC-Internal)
5202	Risk/Extent of Ischemia (Stress Test)	5201	Positive	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Risk/Extent of Ischemia
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000855 (ACC-Internal)
5210	Stress Echocardiogram	5100	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	BL	value (CONF:RCS-33434).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	18107-3 (LOINC)
5211	Stress Echo Imaging Results	5210	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Stress Test Result
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000854 (ACC-Internal)
5212	Risk/Extent of Ischemia (Stress Echo)	5211	Positive	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Risk/Extent of Ischemia
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000855 (ACC-Internal)
5220	Stress Testing with SPECT MPI	5100	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	BL	value (CONF:RCS-33434).	
							CD	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	49569-7 (LOINC)
5221	SPECT MPI Imaging Results	5220	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Stress Test Result

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000854 (ACC-Internal)
5222	Risk/Extent of Ischemia (SPECT MPI)	5221	Positive	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Risk/Extent of Ischemia
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000855 (ACC-Internal)
5230	Stress Test with CMR	5100	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	BL	value (CONF:RCS-33434).	
							CD	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	58750-1 (LOINC)
5231	CMR Imaging Results	5230	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Stress Test Result
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000854 (ACC-Internal)
5232	Risk/Extent of Ischemia (Stress Test with CMR)	5231	Positive	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Risk/Extent of Ischemia

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000855 (ACC-Internal)
5240	Cardiac CTA	5100	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33434).	
							BL	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	59255-0 (LOINC)
5241	Cardiac CTA Results	5240	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	CD	value (CONF:RCS-33439).	ValueSet: Stress Test Result
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000854 (ACC-Internal)
5250	Coronary Calcium Score	5100	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	BL	value (CONF:RCS-33434).	
							CD	@code (ValueSet: Pre-procedure Test Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1534) (CONF:RCS-33441).	450360000 (SNOMED)
5251	Calcium Score	5250	Yes	SHOULD (0..1)	SHOULD (0..1)	Pre-procedure Test Result Entry	PQ	value (CONF:RCS-33439).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Pre-procedure Test Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1535) (CONF:RCS-33446).	100000647 (ACC-Internal)
5300	Date of Procedure			SHALL (1..1)	SHALL (1..1)	Procedure Session Organizer	TS	effectiveTime\low (CONF:RCS-33561).	
5301	Time of Procedure	5300	Date	SHALL (1..1)	SHALL (1..1)	Procedure Session Organizer	TS	effectiveTime\low (CONF:RCS-33561).	
5305	PCI			SHALL (1..1)	SHALL (1..1)	Procedure Entry	CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0136) (CONF:RCS-32596).	415070008 (SNOMED)
							BL	@negationInd (CONF:RCS-33009).	
5310	Diagnostic Cath			SHALL (1..1)	SHALL (1..1)	Procedure Entry	CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0136) (CONF:RCS-32596).	41976001 (SNOMED)
							BL	@negationInd (CONF:RCS-33009).	
5315	Other Procedure (in conj w/Dx Cath or PCI)			SHOULD (0..1)	SHOULD (0..1)	Procedure Entry	CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0136) (CONF:RCS-32596).	OTH (HL7NullFlavor)
							BL	@negationInd (CONF:RCS-33009).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
5320	Fluoroscopy Time			SHOULD (0..1)	SHOULD (0..1)	Procedure Entry	PQ (UOM =min)	effectivetime@width (CONF:RCS-33401)	
							CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10136) (CONF:RCS-32596).	44491008 (SNOMED)
5321	Fluoroscopy Dose			SHOULD (0..1)	SHOULD (0..1)	Procedure Observation Entry	PQ (UOM =mGy)	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	446996006 (SNOMED)
5325	Contrast Volume			SHOULD (0..1)	SHOULD (0..1)	Contrast Administration Entry	CD	@code (ValueSet: Contrast Administration 1.3.6.1.4.1.19376.1.4.1.6.5.10111) (CONF:RCS-33175).	419098001 (SNOMED)
							PQ(UOM= ml)	doseQuantity (CONF:RCS-33182).	
5330	IABP			SHOULD (0..1)	SHOULD (0..1)	Procedure Entry	CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10136) (CONF:RCS-32596).	399217008 (SNOMED)
							BL	@negationInd (CONF:RCS-33009).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
5335	IABP Timing	5330	Yes	(0..0)	SHOULD (0..1)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: Timing of Cardioassist Device
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	7389001 (SNOMED)
5340	Other Mechanical Ventricular Support			SHOULD (0..1)	SHOULD (0..1)	Procedure Entry	CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10136) (CONF:RCS-32596).	232957001 (SNOMED)
							BL	@negationInd (CONF:RCS-33009).	
5345	Other Mechanical Ventricular Support Timing	5340	Yes	(0..0)	SHOULD (0..1)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: Timing of Cardioassist Device
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	7389001 (SNOMED)
5350	Arterial Access Site			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value (CONF:RCS-32875).	ValueSet: Arterial Access Site
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10117) (CONF:RCS-32877).	311788003 (SNOMED)
5355	Arterial Access Closure Method	5356	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Device Organizer	CD	@code (ValueSet: Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10136) (CONF:RCS-32596).	112695004 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	playingDevice\code (CONF:RCS-33387).	ValueSet: Closure Device 1.3.6.1.4.1.19376.1.4.1.6.5.10044
5356	Closure Method Not Documented			SHOULD (0..1)	SHOULD (0..1)	Procedure Device Organizer	CD	**@nullFlavor** (CONF:RCS-33403).	NAV (HL7NullFlavor)
5360	Closure Device Counter	5356	No	SHALL (1..1)	SHALL (1..1)	Procedure Entry	INT	**sequenceNumber** (CONF:RCS-33397)	
6000	Diagnostic Cath Operator Last Name	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	ST	name/family (CONF:RCS-32316).	
6005	Diagnostic Cath Operator First Name	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	ST	name/given (CONF:RCS-32317).	
6010	Diagnostic Cath Operator Middle Name	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	ST	name/given (CONF:RCS-32317).	
6015	Diagnostic Cath Operator NPI	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	ST	id/@extension (CONF:RCS-32633).	
6020	Diagnostic Coronary Angiography Procedure	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	CD	@code (ValueSet: Component Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10128) (CONF:RCS-33130).	33367005 (SNOMED)
							BL	@negationInd (CONF:RCS-33399).	
6025	Left Heart Cath Procedure	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	CD	@code (ValueSet: Component Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.10128) (CONF:RCS-33130).	67629009 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							BL	@negationInd (CONF:RCS-33399).	
6030	Cardiac Transplant Evaluation	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Observation Entry	BL	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	100000872 (ACC-Internal)
6035	Cardiac Transplant Type	6030	Yes	SHOULD (0..1)	(0..0)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: Cardiac Transplant Evaluation Type
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	100000873 (ACC-Internal)
6040	Diagnostic Cath Status	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: Procedure Priority
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	272125009 (SNOMED)
6045	Rx Recommendation	5310	Yes	SHOULD (0..1)	(0..0)	Procedure Entry	CD	@code (ValueSet: Diagnostic Catheterization Recommendation 1.3.6.1.4.1.19376.1.4.1.6.5.10099) (CONF:RCS-33139).	
6100	Dominance			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value (CONF:RCS-32875).	ValueSet: Dominance of the coronary anatomy

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	253727002 (SNOMED)
6110	Left Main Stenosis Percent	6111	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	3227004 (SNOMED)
6111	Left Main Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-3236132894).	NAV (HL7NullFlavor)
6120	Proximal LAD Stenosis Percent	6121	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	68787002 (SNOMED)
6121	Proximal LAD Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6130	Mid/Distal LAD, Diag Branches Stenosis Percent	6131	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000830 (ACC-Internal)
6131	Mid/Distal LAD, Diagonals Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6140	CIRC, OMs, LPDA, LPL Branches Stenosis Percent	6141	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000831 (ACC-Internal)
6141	CIRC, OMs, LPDL, LPL Branches Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6150	RCA, RPDA, RPL, AM Branches Stenosis Percent	6151	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	value (CONF:RCS-32893).	100000832 (ACC-Internal)
6151	RCA, RPDA, RPL, AM Branches Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6160	Ramus Stenosis Percent	6161	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000562 (ACC-Internal)
6161	Ramus Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6170	Proximal LAD Graft Stenosis Percent	6171	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000846 (ACC-Internal)
6171	Proximal LAD Graft Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6180	Mid/Distal LAD, Diag Branches Graft Stenosis Percent	6181	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.10119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000847 (ACC-Internal)
6181	Mid/Distal LAD, Diag Branches Graft Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6190	CIRC, OMs, LPDA, LPL Branches Graft	6191	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
	Stenosis Percent						CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000848 (ACC-Internal)
6191	CIRC, OMs, LPDA, LPL Branches Graft Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
6200	RCA, RPDA, RPL, AM Branches Graft Stenosis Percent	6201	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000849 (ACC-Internal)
6201	RCA, RPDA, RPL, AM Branches Graft Stenosis Not			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
	Available								
6210	Ramus Graft Stenosis Percent	6211	No	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	PQ	value (CONF:RCS-32875).	
							CD	@code (ValueSet: Procedure Session Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0117) (CONF:RCS-32877).	233970002 (SNOMED)
							CD	@code (ValueSet: Procedure Session Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0119) (CONF:RCS-32891).	100000888 (ACC-Internal)
							CD	value (CONF:RCS-32893).	100000850 (ACC-Internal)
6211	Ramus Graft Stenosis Not Available			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Observation Entry	CD	value\@nullFlavor="NAV" (CONF:RCS-32361).	NAV (HL7NullFlavor)
7000	PCI Operator Last Name			(0..0)	SHOULD (0..1)	Procedure Entry	ST	name/family (CONF:RCS-32316).	
7005	PCI Operator First Name			(0..0)	SHOULD (0..1)	Procedure Entry	ST	name/given (CONF:RCS-32317).	
7010	PCI Operator Middle Name			(0..0)	SHOULD (0..1)	Procedure Entry	ST	name/given (CONF:RCS-32317).	
7015	PCI Operator NPI			(0..0)	SHOULD (0..1)	Procedure Entry	ST	id/@extension (CONF:RCS-32633).	
7020	PCI Status			(0..0)	SHOUL	Procedure	CD	value (CONF:RCS-32712).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
					D (0..1)	Observation Entry	CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0124) (CONF:RCS-32716).	272125009 (SNOMED)
7025	Pre-PCI Left Ventricular Ejection Fraction	7026	No	(0..0)	SHOULD (0..1)	Pre-procedure Indication Entry	PQ UOM =%	value (CONF:RCS-32986).	
							CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0122) (CONF:RCS-32987).	250908004 (SNOMED)
7026	Pre-PCI Left Ventricular Ejection Fraction Not Assessed			(0..0)	SHOULD (0..1)	Pre-procedure Indication Entry	CD	@code (ValueSet: Pre-procedure Indication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0122) (CONF:RCS-32987).	250908004 (SNOMED)
							CD	Value/nullFlavor (CONF:RCS-32989).	NAV (HL7NullFlavor)
7030	Cardiogenic Shock at Start of PCI			(0..0)	SHOULD (0..1)	Procedure Observation Entry	BL	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0124) (CONF:RCS-32716).	89138009 (SNOMED)
7035	PCI Indication			(0..0)	SHOULD (0..1)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: Procedure Priority
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0124) (CONF:RCS-32716).	100000880 (ACC-Internal)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7040	STEMI or STEMI Equivalent First Noted	7035	Immediate PCI for STEMI	(0..0)	SHOULD (0..1)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: STEMI First Noted Timeframe
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	100000180 (ACC-Internal)
7045	Subsequent ECG with STEMI or STEMI Equivalent Date	7040	Subsequent ECG	(0..0)	SHOULD (0..1)	Procedure Observation Entry	TS	effectiveTime (CONF:RCS-33148).	
7046	Subsequent ECG with STEMI or STEMI Equivalent Time	7045	Date	(0..0)	SHOULD (0..1)	Procedure Observation Entry	TS	effectiveTime (CONF:RCS-33148).	
7050	First Device Activation Date	7035	Immediate PCI for STEMI	(0..0)	SHOULD (0..1)	Procedure Observation Entry	TS	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	404229004 (SNOMED)
7051	First Device Activation Time	7050	Date	(0..0)	SHOULD (0..1)	Procedure Observation Entry	TS	value (CONF:RCS-32712).	
7055	Patient Transferred in for Immediate PCI for STEMI	7035	Immediate PCI for STEMI	(0..0)	SHOULD (0..1)	Procedure Observation Entry	BL	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	4563007 (SNOMED)
7060	Emergency	7055	Yes	(0..0)	SHOUL	Procedure	TS	value (CONF:RCS-32712).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
	Department Presentation at Referring Facility Date				D (0..1)	Observation Entry	CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0124) (CONF:RCS-32716).	100000353 (ACC-Internal)
7061	Emergency Department Presentation at Referring Facility Time	7060	Date	(0..0)	SHOULD (0..1)	Procedure Observation Entry	TS	value (CONF:RCS-32712).	
7065	Non-system Reason for Delay in PCI	7035	Immediate PCI for STEMI	(0..0)	SHOULD (0..1)	Procedure Observation Entry	CD	value (CONF:RCS-32712).	ValueSet: Non-system reason for delays for PCI
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0124) (CONF:RCS-32716).	373786007 (SNOMED)
7100	Lesion Counter			(0..0)	SHALL (1..1)	Lesion Entry	II	@extension (CONF:RCS-:33406).	
						Procedure Device Organizer	II	@extension (CONF:RCS-33407).	
7105	Segment Number			(0..0)	SHOULD (0..1)	Lesion Entry	CD	targetSiteCodes\@code (CONF:RCS-33081)	ValueSet: Coronary Segment
7110	Culprit Lesion	5000	Unstable angina, Non-STEMI, STEMI	(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	371895000 (SNOMED)
							BL	value (CONF:RCS-33334).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							BL	value\@nullFlavor (CONF:RCS-33335).	UNK (HL7NullFlavor)
7115	Stenosis Immediately Prior to Rx			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	233970002 (SNOMED)
							PQ	value (CONF:RCS-33334).	
7120	Chronic Total Occlusion			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	100000290 (ACC-Internal)
							BL	value (CONF:RCS-33334).	
7125	IVUS			(0..0)	SHOULD (0..1)	Lesion Entry	BL	procedure\@negationInd (CONF:RCS-33341).	
							CD	@code (ValueSet: Lesion Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0116) (CONF:RCS-33343).	431945005 (SNOMED)
7130	Fractional Flow Reserve			(0..0)	SHOULD (0..1)	Lesion Entry	BL	procedure\@negationInd (CONF:RCS-33341).	
							CD	@code (ValueSet: Lesion Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0116) (CONF:RCS-33343).	431558000 (SNOMED)
7135	Fractional Flow Reserve Ratio			(0..0)	SHOULD (0..1)	Lesion Entry	CD	@code (ValueSet: Lesion Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0121) (CONF:RCS-33352).	371842003 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							PQ	value (CONF:RCS-33354).	
7140	Pre-Procedure TIMI Flow			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	25103009 (SNOMED)
							CD	value (CONF:RCS-33334).	ValueSet: TIMI Flow Grade
7145	Previously Treated Lesion			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	373108000 (SNOMED)
							BL	value (CONF:RCS-33334).	
7150	Previously Treated Lesion Timeframe	7145	Yes	(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	value (CONF:RCS-33203).	ValueSet: Previously Treated Lesion Timeframe
							CD	@code (ValueSet: Pre-Intervention Lesion Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0132) (CONF:RCS-33225).	7389001 (SNOMED)
7155	Treated with Stent	7145	Yes	(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	BL	value (CONF:RCS-33203).	
							CD	@code (ValueSet: Pre-Intervention Lesion Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0132) (CONF:RCS-33225).	36969009 (SNOMED)
7160	In-stent Restenosis	7155	Yes	(0..0)	SHOUL	Pre-Intervention	BL	value (CONF:RCS-33203).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
					D (0..1)	Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0132) (CONF:RCS-33225).	100000031 (SNOMED)
7165	In-stent Thrombosis	7155	Yes	(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	BL	value (CONF:RCS-33203).	
							CD	@code (ValueSet: Pre-Intervention Lesion Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0132) (CONF:RCS-33225).	264579008 (SNOMED)
7170	Stent Type	7155	Yes	(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	value (CONF:RCS-33203).	ValueSet: Stent Device Type
							CD	@code (ValueSet: Pre-Intervention Lesion Observation Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0132) (CONF:RCS-33225).	100000856 (ACC-Internal)
7175	Lesion In Graft			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	251021001 (SNOMED)
							BL	value (CONF:RCS-33334).	ValueSet: Graft Type
7180	Location in Graft	7175	Vein, LIMA Graft, Other artery	(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	100000862 (ACC-Internal)
							CD	value (CONF:RCS-33334).	ValueSet: Location of Graft in Lesion

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7185	Lesion Complexity			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	100000866 (ACC-Internal)
							CD	value (CONF:RCS-33334).	ValueSet: Lesion Complexity Finding
7190	Lesion Length			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	410668003 (SNOMED)
							PQ UOM: mm	value (CONF:RCS-33334).	
7195	Thrombus Present			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	398274000 (SNOMED)
							BL	value (CONF:RCS-33334).	
7200	Bifurcation Lesion			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	371894001 (SNOMED)
							BL	value (CONF:RCS-33334).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7205	Guidewire Across Lesion			(0..0)	SHOULD (0..1)	Pre-Intervention Lesion Observation Entry	CD	@code (ValueSet: Pre-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33221).	100000851 (ACC-Internal)
							BL	value (CONF:RCS-33334).	
7210	Stenosis Post-Procedure	7205	Yes	(0..0)	SHOULD (0..1)	Post-Intervention Lesion Observation Entry	CD	@code (ValueSet: Post-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33288).	233970002 (SNOMED)
							PQ UOM: %	value (CONF:RCS-33332).	
7215	Post-Procedure TIMI Flow	7205	Yes	(0..0)	SHOULD (0..1)	Post-Intervention Lesion Observation Entry	CD	@code (ValueSet: Post-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33288).	25103009 (SNOMED)
							CD	value (CONF:RCS-33332).	ValueSet: TIMI Flow Grade
7220	Device Deployed	7205	Yes	(0..0)	SHOULD (0..1)	Post-Intervention Lesion Observation Entry	CD	@code (ValueSet: Post-Intervention Lesion Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0135) (CONF:RCS-33288).	100000868 (ACC-Internal)
							BL	value (CONF:RCS-33332).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7225	Intracoronary Device(s) Used	7220	Yes	(0..0)	SHOULD (0..1)	Procedure Device Organizer	CD	@code (ValueSet: Intracoronary Device 1.3.6.1.4.1.19376.1.4.1.6.5.11530) (CONF:RCS-33387).	
7230	Intracoronary Device Counter	7220	Yes	(0..0)	SHALL (1..1)	Procedure Device Organizer	CD	sequenceNumber (CONF:RCS-33397)	
7235	Device Diameter	7225		(0..0)	SHOULD (0..1)	Procedure Device Organizer	PQ	value (CONF:RCS-32804).	
							CD	@code (ValueSet: Device Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10129) (CONF:RCS-33090).	408706001 (SNOMED)
7240	Device Length	7225		(0..0)	SHOULD (0..1)	Procedure Device Organizer	PQ	value (CONF:RCS-32804).	
							CD	@code (ValueSet: Device Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10129) (CONF:RCS-33090).	408703009 (SNOMED)
7245	Significant Dissection			(0..0)	SHOULD (0..1)	Procedure Observation Entry	BL	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	100000883 (ACC-Internal)
7250	Perforation			(0..0)	SHOULD (0..1)	Procedure Observation Entry	BL	value (CONF:RCS-32712).	
							CD	@code (ValueSet: Procedure Observation 1.3.6.1.4.1.19376.1.4.1.6.5.10124) (CONF:RCS-32716).	234010000 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7300	CK-MB Pre-Procedure	7302	No	(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	PQ (UOM =ng/mL)	value (CONF:RCS-33411).	
							CD	@code (ValueSet: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1533) (CONF:RCS-33418).	13969-1 (LOINC)
7301	CK Pre-Procedure Not Applicable			(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	PQ	Value/nullFlavor (CONF:RCS-33411).	NAV (HL7NullFlavor)
							CD	@code (ValueSet: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1533) (CONF:RCS-33418).	2157-6 (LOINC)
7302	CK Pre-Procedure Drawn and Normal	7301	No	(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD	@code (ValueSet: Laboratory Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-334323).	17621005 (SNOMED)
							BL	value (CONF:RCS-33416).	
7305	Troponin I Pre-Procedure	7306	No	(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	PQ (UOM =ng/mL)	value (CONF:RCS-33411).	
							CD	@code (ValueSet: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1533) (CONF:RCS-33418).	10839-9 (LOINC)
7306	Troponin l Pre-Procedure Not Drawn					Pre-procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33420).	NAV (HL7NullFlavor)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7310	Troponin T Pre-Procedure	7311	No	(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD PQ (UOM=ng/mL)	value (CONF:RCS-33411).	
							CD	@code (ValueSet: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1533) (CONF:RCS-33418).	6598-7 (LOINC)
7311	Troponin T Pre-Procedure Not Drawn			(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33420).	NAV (HL7NullFlavor)
7315	Pre-Procedure Creatinine	7316	No	(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD PQ (UOM=mg/dL)	value (CONF:RCS-33411).	
							CD	@code (ValueSet: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1533) (CONF:RCS-33418).	2160-0 (LOINC)
7316	Pre-Procedure Creatinine Not Drawn			(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33420).	NAV (HL7NullFlavor)
7320	Pre-Procedure Hemoglobin	7321	No	(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD PQ (UOM=g/dL)	value (CONF:RCS-33411).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Pre-procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1533) (CONF:RCS-33418).	718-7 (LOINC)
7321	Pre-Procedure Hemoglobin Not Drawn			(0..0)	SHOULD (0..1)	Pre-procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33420).	NAV (HL7NullFlavor)
7325	CK-MB Post-Procedure	7327	No	(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	PQ (UOM =ng/mL)	value (CONF:RCS-33468).	
							CD	@code (ValueSet: Post Procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-33474).	13969-1 (LOINC)
7326	CK Post-Procedure Not Applicable			(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33468).	NA (HL7NullFlavor)
							CD	@code (ValueSet: Post Procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-33474).	2157-6 (LOINC)
7327	CK Post-Procedure Drawn and Normal	7326	No	(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	CD	@code (ValueSet: Laboratory Result Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1537) (CONF:RCS-33486).	17621005 (SNOMED)
							BL	value (CONF:RCS-33473).	
7330	Troponin I Post-Procedure	7331	No	(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	PQ (UOM =ng/mL)	value (CONF:RCS-33468).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Post Procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-33474).	10839-9 (LOINC)
7331	Troponin I Post-Procedure Not Drawn			(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33476).	NAV (HL7NullFlavor)
7335	Troponin T Post-Procedure	7336	No	(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	PQ (UOM =ng/mL)	value (CONF:RCS-33468).	
							CD	@code (ValueSet: Post Procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-33474).	6598-7 (LOINC)
7336	Troponin T Post-Procedure Not Drawn			(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33476).	NAV (HL7NullFlavor)
7340	Post-Procedure Creatinine	7341	No	(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	PQ (UOM =mg/dL)	value (CONF:RCS-33468).	
							CD	@code (ValueSet: Post Procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-33474).	2160-0 (LOINC)
7341	Post-Procedure Creatinine Not Drawn			(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33476).	NAV (HL7NullFlavor)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
7345	Post-Procedure Hemoglobin	7346	No	(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	PQ (UOM=g/dL)	value (CONF:RCS-33468).	
							CD	@code (ValueSet: Post Procedure Laboratory Result 1.3.6.1.4.1.19376.1.4.1.6.5.1 1536) (CONF:RCS-33474).	718-7 (LOINC)
7346	Post-Procedure Hemoglobin Not Drawn			(0..0)	SHOULD (0..1)	Post Procedure Laboratory Result Entry	CD	Value/nullFlavor (CONF:RCS-33476).	NAV (HL7NullFlavor)
8000	Myocardial Infarction (Biomarker Positive)			(0..0)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	22298006 (SNOMED)
8005	Cardiogenic Shock			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	89138009 (SNOMED)
8010	Heart Failure			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	84114007 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
8015	CVA/Stroke			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	230690007 (SNOMED)
8021	Hemorrhagic Stroke	8015	Yes	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	230706003 (SNOMED)
8025	Tamponade			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	35304003 (SNOMED)
8030	New Requirement for Dialysis			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	36225005 (SNOMED)
8035	Other Vascular Complications Requiring Treatment			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	28104001 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
8040	PRBC/Whole Blood Transfusion			(0..0)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	71493000 (SNOMED)
8041	Hemoglobin Prior to Transfusion	8040	Yes	(0..0)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33518).	718-7 (LOINC)
							PQ	value (CONF:RCS-33505).	
8050	Bleeding Event w/in 72 Hours			SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	131148009 (SNOMED)
8055	Bleeding at Access Site	8050	Yes	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33504).	100000902 (ACC-Internal)
							BL	value (CONF:RCS-33518).	311788003 (SNOMED)
8060	Hematoma at Access Site	8050	Yes	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	BL	value (CONF:RCS-33500).	
							CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33518).	213262007 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
							CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33504).	100000902 (ACC-Internal)
							CD	value (CONF:RCS-33505).	311788003 (SNOMED)
8061	Hematoma Size	8060	Yes	(0..0)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event 1.3.6.1.4.1.19376.1.4.1.6.5.1 1532) (CONF:RCS-33507).	213262007 (SNOMED)
							CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33518).	100000007 (ACC-Internal)
							CD	value (CONF:RCS-33505).	ValueSet: Hematoma Size
8070	Retroperitoneal Bleeding	8050	Yes	SHOULD (0..1)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33518).	100000902 (ACC-Internal)
							CD	value (CONF:RCS-33505).	82849001 (SNOMED)
8080	Gastrointestinal Bleeding	8050	Yes	(0..0)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1	100000902 (ACC-Internal)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
								1538) (CONF:RCS-33518).	
							CD	value (CONF:RCS-33505).	122865005 (SNOMED)
8090	Genital-Urinary Bleeding	8050	Yes	(0..0)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33518).	100000902 (ACC-Internal)
							CD	value (CONF:RCS-33505).	278861008 (SNOMED)
8100	Other Bleeding	8050	Yes	(0..0)	SHOULD (0..1)	Procedure Session Event Entry	CD	@code (ValueSet: Procedure Session Event Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1538) (CONF:RCS-33518).	100000902 (ACC-Internal)
							CD	value (CONF:RCS-33505).	OTH (HL7NullFlavor)
9000	CABG			SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	CD	@code (ValueSet: Encounter Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0130) (CONF:RCS-33025).	232717009 (SNOMED)
							BL	@negationInd (CONF:RCS-33032).	
9005	CABG Status	9000	Yes	SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	CD	@code (ValueSet: Encounter Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1	272125009 (SNOMED)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
								0131) (CONF:RCS-33040).	
							CD	value (CONF:RCS-33042).	ValueSet: Procedure Priority
9010	CABG Indication	9000	Yes	SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	CD	@code (ValueSet: Encounter Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0131) (CONF:RCS-33040).	100000903 (ACC-Internal)
							CD	value (CONF:RCS-33042).	ValueSet: Reason for CABG
9015	CABG Location	9000	Yes	SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	CD	@code (ValueSet: Encounter Procedure Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 0131) (CONF:RCS-33040).	100000869 (ACC-Internal)
							CD	value (CONF:RCS-33042).	ValueSet: Location where Procedure was Performed
9020	CABG Date	9015	At your facility	SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	TS	effectiveTime (CONF:RCS-33031).	
9021	CABG Time	9020	Date	SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	TS	effectiveTime (CONF:RCS-33031).	
9025	Other Major Surgery			SHOULD (0..1)	SHOULD (0..1)	Encounter Procedure Entry	CD	@code (ValueSet: Encounter Procedure 1.3.6.1.4.1.19376.1.4.1.6.5.1 0130) (CONF:RCS-33025).	100000713 (ACC-Internal)
							BL	@negationInd (CONF:RCS-33032).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
9030	Left Ventricular Ejection Fraction	9031	No	SHOULD (0..1)	SHOULD (0..1)	Encounter Observation Entry	PQ (UOM =%)	value (CONF:RCS-32004).	
							CD	@code (ValueSet: Encounter Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0090) (CONF:RCS-32322).	250908004 (SNOMED)
9031	Left Ventricular Ejection Fraction Not Assessed			SHOULD (0..1)	SHOULD (0..1)	Encounter Observation Entry	CD	value\@nullFlavor (CONF:RCS-32673).	NAV (HL7NullFlavor)
9035	Discharge Date			SHALL (1..1)	SHALL (1..1)	Encounter Entry	CD	effectiveTime\high (CONF:RCS-32426).	
9040	Discharge Status			SHOULD (0..1)	SHOULD (0..1)	Discharge Observation Entry	BL	value (CONF:RCS-32860).	ValueSet: Discharge Disposition
							CD	@code (ValueSet: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0118) (CONF:RCS-32862).	100000884 (ACC-Internal)
9045	Discharge Location	9040	Alive	(0..0)	SHOULD (0..1)	Discharge Observation Entry	CD	value (CONF:RCS-32860).	ValueSet: Discharge Disposition
							CD	@code (ValueSet: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0118) (CONF:RCS-32862).	100000884 (ACC-Internal)
9050	Cardiac Rehabilitation Referral	9040	Alive	(0..0)	SHOULD (0..1)	Discharge Clinical Finding Entry	CD	value (CONF:RCS-32860).	ValueSet: Yes/No/Ineligible Response
							CD	@code (ValueSet: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0118) (CONF:RCS-32862).	100000539 (ACC-Internal)

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
9055	Death in Lab	9040	Deceased	SHOULD (0..1)	SHOULD (0..1)	Discharge Observation Entry	BL	value (CONF:RCS-32860).	
							CD	@code (ValueSet: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0118) (CONF:RCS-32862).	419620001 (SNOMED)
9060	Primary Cause of Death	9040	Deceased	(0..0)	SHOULD (0..1)	Discharge Observation Entry	CD	value (CONF:RCS-32860).	ValueSet: Cause of Death
							CD	@code (ValueSet: Discharge Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0118) (CONF:RCS-32862).	184305005 (SNOMED)
9065	Hospital Status			SHOULD (0..1)	SHOULD (0..1)	Encounter Observation Entry	CD	value (CONF:RCS-32004).	ValueSet: Encounter Type
							CD	@code (ValueSet: Encounter Observation 1.3.6.1.4.1.19376.1.4.1.6.5.1 0090) (CONF:RCS-32322).	100000885 (ACC-Internal)
9500	Procedure Medications			(0..0)	MAY (0..1)	Procedure Medication Administration Entry	CD	@code (ValueSet: Procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0053) (CONF:RCS-32748).	
9505	Discharge Medications	9040	Alive	(0..0)	MAY (0..1)	Discharge Medication Entry	CD	@code (ValueSet: Discharge Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0060) (CONF:RCS-32839).	
9515	Medication ID			(0..0)	SHALL (1..1)	Discharge Medication Entry	CD	@code (ValueSet: Discharge Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0060) (CONF:RCS-32839).	

NCDR CathPCI V4.4 Registry Element Reference						RCS-C Content Profile CDA Containment Reference			
Seq. No.	Name	Parent ID	Parent Value	Cardinality		Template Name/OID	Data Type /UOM	Conformance Reference	Value
				Dx Cath	PCI				
9510	Medication Administered			(0..0)	SHOULD (0..1)	Procedure Medication Administration Entry	CD	@code (ValueSet: Procedure Medication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1539) (CONF:RCS-32756).	432102000 (SNOMED)
							CD	value (CONF:RCS-32758).	ValueSet: Medication Administration Response
9510	Medication Administered			(0..0)	SHOULD (0..1)	Discharge Entry	CD	@code (ValueSet: Procedure Medication Modifier 1.3.6.1.4.1.19376.1.4.1.6.5.1 1539) (CONF:RCS-32971).	432102000 (SNOMED)
							CD	value (CONF:RCS-32973).	ValueSet: Medication Administration Response
9515	Medication ID			(0..0)	SHALL (1..1)	Procedure Medication Administration Entry	CD	@code (ValueSet: Procedure Medication 1.3.6.1.4.1.19376.1.4.1.6.5.1 0053) (CONF:RCS-32748).	

