Section: Demographics **Parent: Root**

Element: 2000 Last Name

Coding Instruction: Indicate the patient's last name. Hyphenated names should be recorded with a hyphen.

Target Value: The value on arrival at this facility

Element: 2010 First Name

Coding Instruction: Indicate the patient's first name.

Target Value: The value on arrival at this facility

Element: 2020 Middle Name

Coding Instruction: Indicate the patient's middle name.

Note(s):
It is acceptable to specify the middle initial.

If there is no middle name given, leave field blank.

If there are multiple middle names, enter all of the middle names sequentially.

If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on arrival at this facility

Element: 2050 Birth Date

Coding Instruction: Indicate the patient's date of birth.

Target Value: The value on arrival at this facility

Element: 2030 SSN

Coding Instruction: Indicate the patient's United States Social Security Number (SSN).

Note(s):
If the patient does not have a US Social Security Number (SSN), leave blank and check 'SSN NA'.

Target Value: The value on arrival at this facility

Vendor Instruction: SSN (2030) must be 9 numeric characters long

Element: 2031 SSN N/A

Coding Instruction: Indicate if the patient does not have a United States Social Security Number (SSN).

Target Value: The value on arrival at this facility

Element: 2040 Patient ID

Coding Instruction: Indicate the number created and automatically inserted by the software that uniquely identifies this patient.

Note(s):
Once assigned to a patient at the participating facility, this number will never be changed or reassigned to a different patient. If the patient returns to the same participating facility or for follow up, they will receive this same unique patient identifier.

Target Value: The value on arrival at this facility

Element: 2045 Other ID

Coding Instruction: Indicate an optional patient identifier, such as medical record number, that can be associated with the patient.

Target Value: N/A

Element: 2060 Sex

Coding Instruction: Indicate the patient's sex at birth.

Target Value: The value on arrival at this facility

Person Sex - 1.3.6.1.4.1.19376.1.4.1.6.5.19

Selection	Definition	Source	Code	Code System
Male			M	HL7 Administrative Gender

Section: Demographics **Parent: Root**

Female F HL7 Administrative Gender

Element: 2065 Patient Zip Code

Coding Instruction: Indicate the patient's United States Postal Service zip code of their primary residence.

Note(s):
If the patient does not have a U.S. residence, or is homeless, leave blank and check 'Zip Code NA'.

Target Value: The value on arrival at this facility

Vendor Instruction: Patient Zip Code (2065) must be 5 numeric characters long

Element: 2066 Zip Code N/A

Coding Instruction: Indicate if the patient does not have a United States Postal Service zip code.

Note(s):
This includes patients who do not have a U.S. residence or are homeless.

Target Value: The value on arrival at this facility

Element: 2070 Race - White

Coding Instruction: Indicate if the patient is White as determined by the patient/family.

Note(s):
If the patient has multiple race origins, specify them using the other race selections in addition to this one.

Target Value: The value on arrival at this facility

Supporting Definition: **White (race)**

Having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Source: U.S. Office of Management and Budget. Classification of Federal Data on Race and Ethnicity

Element: 2071 Race - Black/African American

Coding Instruction: Indicate if the patient is Black or African American as determined by the patient/family.

Note(s):
If the patient has multiple race origins, specify them using the other race selections in addition to this one.

Target Value: The value on arrival at this facility

Supporting Definition: **Black/African American (race)**

Having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."

Source: U.S. Office of Management and Budget. Classification of Federal Data on Race and Ethnicity

Element: 2073 Race - American Indian/Alaskan Native

Coding Instruction: Indicate if the patient is American Indian or Alaskan Native as determined by the patient/family.

Note(s):
If the patient has multiple race origins, specify them using the other race selections in addition to this one.

Target Value: The value on arrival at this facility

Supporting Definition: **American Indian or Alaskan Native (race)**

Having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Source: U.S. Office of Management and Budget. Classification of Federal Data on Race and Ethnicity

Element: 2072 Race - Asian

Coding Instruction: Indicate if the patient is Asian as determined by the patient/family.

Note(s):
If the patient has multiple race origins, specify them using the other race selections in addition to this one.

Target Value: The value on arrival at this facility

Supporting Definition: **Asian (race)**

Having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Source: U.S. Office of Management and Budget. Classification of Federal Data on Race and Ethnicity

Section: Demographics **Parent: Root**

Element: 2074 Race - Native Hawaiian/Pacific Islander

Coding Instruction: Indicate if the patient is Native Hawaiian or Pacific Islander as determined by the patient/family.

Note(s):
If the patient has multiple race origins, specify them using the other race selections in addition to this one.

Target Value: The value on arrival at this facility

Supporting Definition: **Race - Native Hawaiian/Pacific Islander - Native Hawaiian**

Having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Source: U.S. Office of Management and Budget. Classification of Federal Data on Race and Ethnicity

Element: 2076 Hispanic or Latino Ethnicity

Coding Instruction: Indicate if the patient is of Hispanic or Latino ethnicity as determined by the patient/family.

Target Value: The value on arrival at this facility

Supporting Definition: **Hispanic or Latino Ethnicity**

A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."

Source: U.S. Office of Management and Budget. Classification of Federal Data on Race and Ethnicity

Section: Episode of Care — Parent: Root

Element: 2999 Episode Unique Key

Coding Instruction: Indicate the unique key associated with each patient episode record as assigned by the EMR/EHR or your software application.

Target Value: N/A

Element: 3001 Arrival Date and Time

Coding Instruction: Indicate the date and time the patient arrived at your facility.

Note(s):
Indicate the time (hours:minutes) using the military 24-hour clock, beginning at midnight (00:00 hours).

Target Value: N/A

Vendor Instruction: Patient must be at least 18 years old at time of Arrival Date and Time (3001)

Element: 15605 Facility Classification Type

Coding Instruction: Indicate the type of facility in which services were provided.

Target Value: The value on arrival at this facility

Supporting Definition: **Facility Classification Type**

The facility classification type may be ambulatory surgical center (ASC) or office-based laboratory (OBL) depending on the local and state regulations which apply to the care delivery.

Source:

Facility Classification - 1.3.6.1.4.1.19376.1.4.1.6.5.938

Selection	Definition	Source	Code	Code System
Ambulatory Surgical Center (ASC)	The ASC is a freestanding facility, other than a physician's office, where diagnostic and surgical services are provided on an ambulatory basis.	Centers for Medicare & Medicaid Services	405607001	SNOMED CT
Office Based Lab (OBL)	The OBL is a location where the health professional routinely provides examinations, diagnosis, and treatment of illness or injury on an ambulatory basis.	Centers for Medicare & Medicaid Services	257651001	SNOMED CT

Section: Health Insurance **Parent: Episode of Care**

Element: 3005 Health Insurance

Coding Instruction: Indicate if the patient has health insurance.

Target Value: The value on arrival at this facility

Element: 3010 Health Insurance Payment Source

Coding Instruction: Indicate the patient's health insurance payment type.

Note(s):
If the patient has multiple insurance payors, select all payors.

If there is uncertainty regarding how to identify a specific health insurance plan, please discuss with your billing department to understand how it should be identified in the registry.

Target Value: The value on arrival at this facility

Payor Category - 1.3.6.1.4.1.19376.1.4.1.6.5.5

Selection	Definition	Source	Code	Code System
Private health insurance	Private health insurance is coverage by a health plan provided through an employer or union or purchased by an individual from a private health insurance company. A health maintenance organization (HMO) is considered private health insurance.		5	PHDSC
State-specific plan (non-Medicaid)	State Specific Plans - Some states have their own health insurance programs for low-income uninsured individuals. These health plans may be known by different names in different states.		36	PHDSC
Medicare (Part A or B)	Medicare is a health insurance program for: people age 65 or older; people under age 65 with certain disabilities; and people of all ages with end-stage renal disease (permanent kidney failure requiring dialysis or a kidney transplant). Medicare Part A (Hospital Insurance) – Part A helps cover inpatient care in hospitals, including critical access hospitals, and skilled nursing facilities (not custodial or long-term care). It also helps cover hospice care and some home health care. Medicare Part B (Medical Insurance) – Part B helps cover doctors' services and outpatient care. It also covers some other medical services that Part A doesn't cover, such as some of the services of physical and occupational therapists, and some home health care. Part B helps pay for these covered services and supplies when they are medically necessary.	Medicare Program - General Information | CMS	1	PHDSC
Medicare Advantage (Part C)	Medicare Part C (Medicare Advantage) – Part C is an alternative way to get Medicare coverage through private insurance companies instead of the federal government. Part C provides the same benefits as Medicare Part A and Part B, and may include additional benefits such as dental, vision, prescription drug and wellness programs coverage.	Medicare Advantage Plans (Part C) | MedicareAdvantage.com	112000002025	ACC NCDR
Medicaid	Medicaid is a program administered at the state level, which provides medical assistance to the needy. Families with dependent children, the aged, blind, and disabled who are in financial need are eligible for Medicaid. It may be known by different names.		2	PHDSC
Military health care	Military Health care - Military health care includes TRICARE/CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) and CHAMPVA (Civilian Health and Medical Program of the Department of Veterans Affairs), as well as care provided by the Department of Veterans Affairs (VA).		31	PHDSC
Indian health service	Indian Health Service (IHS) is a health care program through which the Department of Health and Human Services provides medical assistance to eligible American Indians at IHS facilities. In addition, the IHS helps pay the cost of selected health care services provided at non-HIS facilities.		33	PHDSC
Non-US insurance	Non-US insurance refers to individuals with a payor that does not originate in the United States.		100000812	ACC NCDR

Section: Health Insurance **Parent: Episode of Care**

Element: 12846 Medicare Beneficiary Identifier

Coding Instruction: Indicate the patient's Medicare Beneficiary Identifier (MBI).

Note(s):
Enter the Medicare Beneficiary Identifier (MBI) for those patients insured by Medicare. Patients without Medicare will not have a MBI.

Target Value: The value on arrival at this facility

Supporting Definition: **Medicare Beneficiary Identifier**

The Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, requires us to remove Social Security Numbers (SSNs) from all Medicare cards by April 2019. A new Medicare Beneficiary Identifier (MBI) will replace the SSN-based Health Insurance Claim Number (HICN) on the new Medicare cards for Medicare transactions like billing, eligibility status, and claim status.

Source: https://www.cms.gov/Medicare/New-Medicare-Card/index.html

Section: Pathway **Parent: Episode of Care**

Element: 15606 CV ASC Pathway

Coding Instruction: Indicate all the CV ASC Registry procedures performed during this episode of care.

Target Value: Any occurrence between arrival and discharge

Vendor Instruction: For CV ASC Pathway (15606), cannot select more than one pathway

When CV ASC Pathway (15606) is PCI with or without coronary angiography, Procedure Type (15607) must include Percutaneous coronary intervention

ASC Pathway - 1.3.6.1.4.1.19376.1.4.1.6.5.937

Selection	Definition	Source	Code	Code System
Diagnostic coronary angiography (Only)	A diagnostic coronary angiography is the passage of a catheter into the aortic root or other great vessels for the purpose of angiography of the native coronary arteries or bypass grafts supplying native coronary arteries.		41976001	SNOMED CT
PCI with or without coronary angiography	A percutaneous coronary intervention (PCI) is the placement of an angioplasty guide wire, balloon, or other device (e.g., stent, atherectomy, brachytherapy, or thrombectomy catheter) into a native coronary artery or coronary artery bypass graft for the purpose of mechanical coronary revascularization.		415070008	SNOMED CT
Implantable cardiac defibrillator	An implantable cardiac defibrillator (ICD) is a device that detects a life-threatening, rapid heartbeat and if it occurs, the ICD quickly sends an electrical shock to the heart. The shock changes the rhythm back to normal.		72506001	SNOMED CT
Permanent pacemaker	A permanent pacemaker is an electronic device that is implanted in the body to monitor heart rate and rhythm. It gives the heart electrical stimulation when it does not beat normally.		449397007	SNOMED CT

Section: History and Risk Factors **Parent: History and Risk Factors**

Element: 6000 Height

Coding Instruction: Indicate the patient's height in centimeters.

Target Value: The last value prior to the start of the first procedure

Element: 6005 Weight

Coding Instruction: Indicate the patient's weight in kilograms.

Target Value: The last value prior to the start of the first procedure

Element: 4625 Tobacco Use

Coding Instruction: Indicate the frequency that the patient uses tobacco.

Note(s): Consider use of any tobacco product as equivalent to a cigarette for referenced definitions.

Target Value: The value on arrival at this facility

Tobacco Use - 1.3.6.1.4.1.19376.1.4.1.6.5.427

Selection	Definition	Source	Code	Code System
Never	A person who has not smoked 100 cigarettes (5 packs) in his or her lifetime.	The Office of the National Coordinator for Health Information Technology; 2015 Edition Smoking status criterion (§ 170.315(a)(11))	266919005	SNOMED CT
Former	A person who does not currently smoke tobacco but has smoked at least 100 cigarettes in his or her lifetime.	The Office of the National Coordinator for Health Information Technology; 2015 Edition Smoking status criterion (§ 170.315(a)(11))	8517006	SNOMED CT
Current	A person who reports currently smoking tobacco every day or on some days.	The Office of the National Coordinator for Health Information Technology; 2015 Edition Smoking status criterion (§170.315(a)(11))	112000003599	ACC NCDR
Unknown	A person whose current and prior smoking status is not known.	The Office of the National Coordinator for Health Information Technology; 2015 Edition Smoking status criterion (§ 170.315(a)(11))	266927001	SNOMED CT

Section: Condition History **Parent: History and Risk Factors**

Element: 12903 Condition History Name

Coding Instruction: The medical conditions listed in this field are controlled by the Condition History Master file. This file is maintained by the NCDR and will be made available for downloading and importing/updating into your application.

Target Value: N/A

Condition Histories - 1.3.6.1.4.1.19376.1.4.1.6.5.927

Selection	Definition	Source	Code	Code System
Atrial fibrillation	AF is a supraventricular tachyarrhythmia with uncoordinated atrial activation and consequently ineffective atrial contraction. Characteristics on an electrocardiogram (ECG) include: 1) irregular R -R intervals (when atrioventricular [AV] conduction is present), 2) absence of distinct repeating P waves, and 3) irregular atrial activity.	January CT, Wann LS, et al. 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society. JACC Vol 64, #21, 2014.	49436004	SNOMED CT
Cardiac arrest	"Sudden" Cardiac arrest is the sudden cessation of cardiac activity. The victim becomes unresponsive with no normal breathing and no signs of circulation. If corrective measures are not taken rapidly, this condition progresses to sudden death. Cardiac arrest should be used to signify an event as described above that is reversed, usually by CPR and/or defibrillation or cardioversion or cardiac pacing.	2013 ACCF/AHA key data elements and definitions for measuring the clinical management and outcomes of patients with acute coronary syndromes and coronary artery disease.	410429000	SNOMED CT
Cardiomyopathy (Any)	Cardiomyopathies are a heterogeneous group of diseases of the myocardium associated with mechanical and/or electrical dysfunction that usually (but not invariably) exhibit inappropriate ventricular hypertrophy or dilatation and are due to a variety of causes that frequently are genetic. Cardiomyopathies either are confined to the heart or are a part of generalized systemic disorders, often leading to cardiovascular death or progressive heart failure-related disability.	McNamara RL, Brass LM, Drozda JP, Jr, et al. ACC/AHA key data elements and definitions for measuring the clinical management and outcomes of patients with atrial fibrillation: A report of the American College of Cardiology/American Heart Association Task Force on clinical data standards (writing committee to develop data standards on atrial fibrillation). J Am Coll Cardiol. 2004;44(2):475 -495	85898001	SNOMED CT
Cardiomyopathy - ischemic	The patient has a history of ischemic cardiomyopathy documented by heart failure and reduced systolic function (ejection fraction <40%) and history of any one of the following: 1. History of myocardial infarction (MI) 2. History of Percutaneous Coronary Intervention; 3. History of Coronary Artery Bypass Graft Surgery; 4. Conventional coronary angiography demonstrates >=70% stenosis in at least one major coronary artery. 5. Stress testing (with or without imaging) diagnostic of coronary artery disease.		426856002	SNOMED CT
Cardiomyopathy - non-ischemic	Includes cardiomyopathies resulting from volume or pressure overload, such as hypertension or valvular heart disease.		111000119104	SNOMED CT
Cerebrovascular disease	Current or previous history of any of the following: - Ischemic stroke: infarction of central nervous system tissue whether symptomatic or silent (asymptomatic). -TIA: transient episode of neurological dysfunction caused by focal brain, spinal cord, or retinal ischemia without acute infarction. The symptoms typically last less than 24 hours. - Noninvasive or invasive arterial imaging test demonstrating 50% stenosis of any of the major extracranial or intracranial vessels to the brain. - Previous cervical or cerebral artery revascularization surgery or percutaneous intervention. This does not include chronic (nonvascular) neurological diseases or other acute neurological insults such as metabolic and anoxic ischemic	ACCF/AHA 2011 Key Data Elements and Definitions of a Base Cardiovascular Vocabulary for Electronic Health Records (JACC 2011;58;202-222)	62914000	SNOMED CT

Section: Condition History		Parent: History and Risk Factors		
	encephalopathy.			
Chronic lung disease	Chronic lung disease can include patients with chronic obstructive pulmonary disease, chronic bronchitis, or emphysema. It can also include a patient who is currently being chronically treated with inhaled or oral pharmacological therapy (e.g., beta-adrenergic agonist, anti-inflammatory agent, leukotriene receptor antagonist, or steroid). Patients with asthma or seasonal allergies are not considered to have chronic lung disease.	ACC/AHA Key Data Elements and Definitions for Measuring the Clinical Management and Outcomes of Patients With Chronic Heart Failure Circulation. 2005;112:1888-1916	413839001	SNOMED CT
Coronary artery disease			53741008	SNOMED CT
Currently on dialysis			108241001	SNOMED CT
Diabetes mellitus			73211009	SNOMED CT
Dyslipidemia	National Cholesterol Education Program criteria include documentation of the following: 1. Total cholesterol greater than 200 mg/dL (5.18 mmol/l); or 2. Low-density lipoprotein (LDL) greater than or equal to 130 mg/dL (3.37 mmol/l); or, 3. High-density lipoprotein (HDL) less than 40 mg/dL (1.04 mmol/l). For patients with known coronary artery disease, treatment is initiated if LDL is greater than 100 mg/dL (2.59 mmol/l), and this would qualify as hypercholesterolemia	National Heart, Lung and Blood Institute, National Cholesterol Education Program	370992007	SNOMED CT
Familial hx of non-ischemic CM			281666001:246090004=399020009	SNOMED CT
Familial syndrome-risk of sudden death	Sudden cardiac death may result from a combination of epidemiological risk factors, structural, metabolic and genetic determinants. Syndromes with risk of sudden death may include: - Brugada Syndrome - Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT) - Long QT Syndrome (LQTS) - Short QT Syndrome (SQTS) - Timothy Syndrome - Wolff Parkinson White (WPW) Other related conditions may include structural malformations of the heart muscle. A dysplasia (misplaced) or cardiomyopathy (thickening) of the heart muscle can be related to Arrhythmogenic Right Ventricular Dysplasia/Cardiomyopathy (ARVD/C), hypertrophic cardiomyopathy (HCM), or Dilated Cardiomyopathy (DM).	Circulation. 2008; 118: 1854-1863 doi: 10.1161/CIRCULATIONAHA.108.783654	100001006	ACC NCDR
Family hx of premature CAD	Family history includes any direct blood relatives (parents, sibling, children) who have had any of the following diagnosed at age less than 55 years for male relatives or less than 65 years for female relatives. 1. Angina 2. Acute myocardial infarction 3. Sudden cardiac death without obvious cause 4. Coronary artery bypass graft surgery 5. Percutaneous coronary intervention	Cannon CP, Brindis RG, Chaitman BR, et. al. 2013 ACCF/AHA key data elements and definitions for measuring the clinical management and outcomes of patients with acute coronary syndromes and coronary artery disease: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Clinical Data Standards (Writing Committee to Develop Acute Coronary Syndromes and Coronary Artery Disease Clinical Data Standards). J Am Coll Cardiol 2013;61:992-1025.	134439009	SNOMED CT
Heart failure	Indicate whether the patient experienced new onset or acute recurrence of heart failure which necessitated new or increased pharmacologic therapy. Heart failure is a complex clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection of blood. The cardinal manifestations of HF are dyspnea and fatigue, which may limit exercise tolerance, and fluid retention, which may lead to pulmonary and/or splanchnic congestion and/or peripheral edema. Some patients have exercise intolerance but little evidence of fluid retention, whereas others complain primarily of edema,		84114007	SNOMED CT

Section: Condition History		Parent: History and Risk Factors		
	dyspnea, or fatigue. Because some patients present without signs or symptoms of volume overload, the term "heart failure" is preferred over "congestive heart failure." There is no single diagnostic test for HF because it is largely a clinical diagnosis based on a careful history and physical examination.			
Hypertension	Hypertension as documented by: 1. History of hypertension diagnosed and treated with medication, diet, and/or exercise 2. Blood pressure greater than 140 mmHg systolic or 90 mmHG diastolic on at least 2 occasions 3. Current use of antihypertensive pharmacological therapy	Cannon C, Battler A, Brindis R, et al. American College of Cardiology key data elements and definitions for measuring the clinical management and outcomes of patients with acute coronary syndromes333. J Am Coll Cardiol. 2001 Dec, 38 (7) 2114–2130. https://doi.org/10.1016/S0735-1097(01)01702-8	38341003	SNOMED CT
Myocardial infarction	Criteria for acute myocardial infarction: The term acute myocardial infarction (MI) should be used when there is evidence of myocardial necrosis in a clinical setting consistent with acute myocardial ischemia. Under these conditions any one of the following criteria meets the diagnosis for MI: - Detection of a rise and/or fall of cardiac biomarker values [preferably cardiac troponin (cTn) with at least one value above the 99th percentile upper reference limit (URL) and with at least one of the following: Symptoms of ischemia. New or presumed new significant ST-segment-T wave (ST-T) changes or new left bundle branch block (LBBB). Development of pathological Q waves in the ECG. Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality. Identification of an intracoronary thrombus by angiography or autopsy. - Cardiac death with symptoms suggestive of myocardial ischemia and presumed new ischemic ECG changes or new LBBB, but death occurred before cardiac biomarkers were obtained, or before cardiac biomarker values would be increased. - Percutaneous coronary intervention (PCI) related MI is arbitrarily defined by elevation of cTn values (>5 x 99th percentile URL) in patients with normal baseline values (99th percentile URL) or a rise of cTn values >20% if the baseline values are elevated and are stable or falling. In addition, either (i) symptoms suggestive of myocardial ischemia or (ii) new ischemic ECG changes or (iii) angiographic findings consistent with a procedural complication or (iv) imaging demonstration of new loss of viable myocardium or new regional wall motion abnormality are required. - Stent thrombosis associated with MI when detected by coronary angiography or autopsy in the setting of myocardial ischemia and with a rise and/or fall of cardiac biomarker values with at least one value above the 99th percentile URL. - Coronary artery bypass grafting (CABG) related MI is arbitrarily defined by elevation of cardiac biomarker values (>10 x 99th percentile URL) in patients with normal baseline cTn values (99th percentile URL). In addition, either (i) new pathological Q waves or new LBBB, or (ii) angiographic documented new graft or new native coronary artery occlusion, or (iii) imaging evidence of new loss of viable myocardium or new regional wall motion abnormality. Any one of the following criteria meets the diagnosis for prior MI:	Thygesen K, Alpert JS, Jaffe AS, et al. Third Universal Definition of Myocardial Infarction. J Am Coll Cardiol. 2012;60(16):1581-1598. doi:10.1016/j.jacc.2012.08.001.	22298006	SNOMED CT

Section: Condition History		Parent: History and Risk Factors		
	- Pathological Q waves with or without symptoms in the absence of non-ischemic causes. - Imaging evidence of a region of loss of viable myocardium that is thinned and fails to contract, in the absence of a non-ischemic cause. - Pathological findings of a prior MI.			
Paroxysmal SVT history			67198005	SNOMED CT
Peripheral arterial disease	Current or previous history of peripheral arterial disease (includes subclavian, iliac, femoral, and upper- and lower-extremity vessels; excludes renal, coronary, cerebral, and mesenteric vessels and aneurysms). This can include: * Claudication on exertion * Amputation for arterial vascular insufficiency * Vascular reconstruction, bypass surgery, or percutaneous revascularization in the arteries of the extremities * Positive noninvasive test (e.g., ankle brachial index <= 0.9, ultrasound, MR or CT imaging of >50% diameter stenosis in any peripheral artery (i.e., subclavian, femoral, iliac) or angiographic imaging)	ACCF/AHA 2011 Key Data Elements and Definitions of a Base Cardiovascular Vocabulary for Electronic Health Records (JACC 2011;58;202-222)	399957001	SNOMED CT
Primary valvular heart disease			368009	SNOMED CT
Structural abnormalities			100000949	ACC NCDR
Syncope			271594007	SNOMED CT
Syndromes of sudden death			100001202	ACC NCDR
Ventricular fibrillation (not due to reversible cause)	Rapid, usually more than 300 bpm (cycle length: 180 ms or less), grossly irregular ventricular rhythm with marked variability in QRS cycle length, morphology, and amplitude.	JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96	71908006	SNOMED CT
Ventricular tachycardia	Ventricular Tachycardia (VT) is a cardiac arrhythmia of 3 or more consecutive complexes in duration emanating from the ventricles at a rate 100 bpm (cycle length: 600 ms).	JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96	25569003	SNOMED CT

Element: 15510 Condition History Occurrence

Coding Instruction: Indicate if the patient has or has not had a clinical diagnosis of the indicated medical condition.

Target Value: Any occurrence between birth and arrival at this facility

Section: Condition History Details **Parent: History and Risk Factors**

Element: 4296 Most Recent MI Date

Coding Instruction: Indicate the date of the most recent myocardial infarction.

Note(s):
If the month or day of the myocardial infarction is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had "most recent myocardial infarction" documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Target Value: The last value between birth and arrival at this facility

Vendor Instruction: Most Recent MI Date (4296) must be Less than or Equal to Arrival Date and Time (3001)

Section: Condition History Details **Parent: History and Risk Factors**

Element: 4400 Atrial Fibrillation Classification

Coding Instruction: Indicate the type of atrial fibrillation experienced by the patient.

Note: Code the most recent classification.

Target Value: Any occurrence between birth and the first procedure in this admission

Atrial Fibrillation Classification - 1.3.6.1.4.1.19376.1.4.1.6.5.17

Selection	Definition	Source	Code	Code System
Paroxysmal (terminating spontaneously w/in 7 days)	AF that terminates spontaneously or with intervention within 7 days of onset. Episodes may recur with variable frequency.		26593000	SNOMED CT
Persistent (greater than 7 days)	Continuous AF that is sustained >7 days or with electrical or pharmacological termination.		62459000	SNOMED CT
Long standing persistent (greater than 1 year)	Continuous AF of >12 months duration.		100001029	ACC NCDR
Permanent	The term “permanent AF” is used when the patient and clinician make a joint decision to stop further attempts to restore and/or maintain sinus rhythm. - Acceptance of AF represents a therapeutic attitude on the part of the patient and clinician rather than an inherent pathophysiological attribute of the AF. - Acceptance of AF may change as symptoms, the efficacy of therapeutic interventions, and patient and clinician preferences evolve.		6934004	SNOMED CT

Element: 4405 Plans for Cardioversion of Atrial Fibrillation

Coding Instruction: Indicate if there is a planned cardioversion for atrial fibrillation.

Note(s):
1. Code No for a history of cardioversion.
2. Code Yes, if the patient was in AFib and cardioverted prior to the start of the first generator implant procedure in this admission.
3. Code Yes if the patient is scheduled for a cardioversion.

Target Value: Any occurrence between birth and the first procedure in this admission

Supporting Definition: **Plans for Cardioversion of Atrial Fibrillation**

A cardioversion is performed using a synchronized shock and/or IV antiarrhythmic medications.

Source:

Element: 4225 Most Recent Cardiac Arrest Date

Coding Instruction: Indicate the date of the most recent cardiac arrest.

Note(s):
If the month or day of the cardiac arrest is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had "most recent cardiac arrest" documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Target Value: The last value between birth and the first procedure in this admission

Vendor Instruction: Most Recent Cardiac Arrest Date (4225) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 4240 Bradycardia Arrest

Coding Instruction: Indicate if the cardiac arrest was a result of bradycardia.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 4235 VFib Arrest

Coding Instruction: Indicate if the cardiac arrest was a result of ventricular fibrillation as defined below.

Target Value: Any occurrence between birth and the first procedure in this admission

Supporting Definition: **VFib Arrest**

Rapid, usually more than 300 bpm (cycle length: 180 ms or less), grossly irregular ventricular rhythm with marked variability in QRS cycle length, morphology, and amplitude.

Source: JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96

Element: 4230 VTach Arrest

Section: Condition History Details | **Parent: History and Risk Factors**

Coding Instruction: Indicate if the cardiac arrest was a result of ventricular tachycardia as defined below.

Target Value: Any occurrence between birth and the first procedure in this admission

Supporting Definition: **Ventricular Tachycardia**

Ventricular Tachycardia (VT) is a cardiac arrhythmia of 3 or more consecutive complexes in duration emanating from the ventricles at a rate 100 bpm (cycle length: 600 ms).

Source: JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96

Element: 4190 Ischemic Cardiomyopathy Timeframe

Coding Instruction: Indicate the timeframe since the initial diagnosis of ischemic cardiomyopathy.

Target Value: The first value between birth and the first procedure in this admission

Cardiomyopathy Timeframe - 1.3.6.1.4.1.19376.1.4.1.6.5.190

Selection	Definition	Source	Code	Code System
Less than 3 months			100001028	ACC NCDR
Greater than or equal to 3 months			100000924	ACC NCDR

Element: 4195 Ischemic Cardiomyopathy Guideline Directed Medical Therapy Maximum Dose

Coding Instruction: Indicate if patient has been on guideline directed medical therapy at least 3 months.

Note(s):
Documentation of GDMT is the responsibility of the clinician and cannot be determined by the abstractor based on a list of medications. Documentation of GDMT maximum, optimum, appropriate dose, medical management/medical therapy for cardiomyopathy or a discussion in the medical record regarding medications as it relates to the patient's cardiomyopathy is acceptable for documenting GDMT. Some other acceptable statements are good neurohormonal therapy, managed appropriately on HF medications, and failed medically management of heart failure.

Target Value: The first value between birth and the first procedure in this admission

Supporting Definition: **Ischemic Guideline Directed Medical Therapy Maximum Dose**

For heart failure in the setting of LV systolic dysfunction, this may require individualization but typically should include the combination of an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker and beta blocker therapy adjusted to target doses as tolerated, with diuretics adjusted if/as needed to control fluid retention. In selected patients, the addition of aldosterone antagonists is appropriate. In addition, in some cases the use of a combination of hydralazine and nitrates may be used instead of an ACE inhibitor / angiotensin receptor blocker. Patients who are going to receive substantial benefit from medical treatment alone usually show some clinical improvement during the first 3 to 6 months. Medical therapy is also assumed to include adequate rate control for tachyarrhythmias, including atrial fibrillation. Therefore, it is recommended that GDMT be provided for at least 3 months before planned reassessment of LV function to consider device implantation. If LV function improves to the point where primary prevention indications no longer apply, then device implantation is not indicated. For stable ischemic heart disease, GDMT should include aspirin (or a thienopyridine if aspirin is not tolerated), statin therapy, angiotensin-converting enzyme inhibition (or an angiotensin receptor blocker) and the use of beta-blockers after myocardial infarction. Therapy for angina/ischemia should include at least 1 of the following medications: beta-blockers, calcium channel antagonists, or nitrates. Therapy should also be directed at optimizing the treatment of associated conditions such as diabetes and uncontrolled hypertension.

Source: 1) O'Gara PT, Kushner FG, Ascheim DD, et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol 2013;61
2) Russo AM, Stainback RF, Bailey SR, et al. ACCF/HRS/AHA/ASE/HFSA/SCAI/SCCT/SCMR 2013 appropriate use criteria for implantable cardioverter-defibrillators and cardiac resynchronization therapy. J Am Coll Cardiol 2013;61:1318-68. doi: 10.1016/j.jacc.2012.12.017

Therapy Status - 1.3.6.1.4.1.19376.1.4.1.6.5.12

Selection	Definition	Source	Code	Code System
Yes (for 3 months)	The patient has been prescribed guideline directed medical therapy for at least 3 months. This may be coded if there is documentation of GDMT without a time frame, only if the abstractor can determine from the medical record that the patient has been on these exact medications for at least 3 months.		100001037	ACC NCDR
Not documented	There is no documentation of guideline directed medical therapy being prescribed.		100001036	ACC NCDR
Not attempted	Guideline directed medical therapy was not attempted on the patient.		100001035	ACC NCDR
Inability to complete	The patient was unable to continue the guideline directed medical therapy for 3 months or the patient is on guideline directed medical therapy but it has been less than 3 months. Without a definitive time documented or the ability to determine the timeframe from the medical record, it would be captured as Inability to Complete. The duration of treatment would		100001038	ACC NCDR

Section: Condition History Details **Parent: History and Risk Factors**

default to less than 3 months since the timeframe was not able to be determined. Inability to Complete would also include patients started on GDMT where it has been less than 3 months since therapy was started, patient refusal, an allergy or absolute contraindication.

Element: 4205 Non-Ischemic Cardiomyopathy Timeframe

Coding Instruction: Indicate the timeframe since the initial diagnosis of non-ischemic cardiomyopathy.

Target Value: The first value between birth and the first procedure in this admission

Cardiomyopathy Timeframe - 1.3.6.1.4.1.19376.1.4.1.6.5.190

Selection	Definition	Source	Code	Code System
Less than 3 months			100001028	ACC NCDR
Greater than or equal to 3 months			100000924	ACC NCDR

Element: 4210 Non-Ischemic Guideline Directed Medical Therapy Maximum Dose

Coding Instruction: Indicate if patient has been on guideline directed medical therapy for at least 3 months.

Note(s):
Documentation of GDMT is the responsibility of the clinician and cannot be determined by the abstractor based on a list of medications. Documentation of GDMT maximum, optimum, appropriate dose, medical management/medical therapy for cardiomyopathy or a discussion in the medical record regarding medications as it relates to the patient's cardiomyopathy is acceptable for documenting GDMT. Some other acceptable statements are good neurohormonal therapy, managed appropriately on HF medications, and failed medically management of heart failure.

Target Value: The first value between birth and the first procedure in this admission

Supporting Definition: **Non-Ischemic Guideline Directed Medical Therapy Maximum Dose**

For heart failure in the setting of LV systolic dysfunction, this may require individualization but typically should include the combination of an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker and beta blocker therapy adjusted to target doses as tolerated, with diuretics adjusted if/as needed to control fluid retention. In selected patients, the addition of aldosterone antagonists is appropriate. In addition, in some cases the use of a combination of hydralazine and nitrates may be used instead of an ACE inhibitor / angiotensin receptor blocker. Patients who are going to receive substantial benefit from medical treatment alone usually show some clinical improvement during the first 3 to 6 months. Medical therapy is also assumed to include adequate rate control for tachyarrhythmias, including atrial fibrillation. Therefore, it is recommended that GDMT be provided for at least 3 months before planned reassessment of LV function to consider device implantation. If LV function improves to the point where primary prevention indications no longer apply, then device implantation is not indicated. For stable ischemic heart disease, GDMT should include aspirin (or a thienopyridine if aspirin is not tolerated), statin therapy, angiotensin-converting enzyme inhibition (or an angiotensin receptor blocker) and the use of beta-blockers after myocardial infarction. Therapy for angina/ischemia should include at least 1 of the following medications: beta-blockers, calcium channel antagonists, or nitrates. Therapy should also be directed at optimizing the treatment of associated conditions such as diabetes and uncontrolled hypertension.

Source: 1) O'Gara PT, Kushner FG, Ascheim DD, et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol 2013;61
2) Russo AM, Stainback RF, Bailey SR, et al. ACCF/HRS/AHA/ASE/HFSA/SCAI/SCCT/SCMR 2013 appropriate use criteria for implantable cardioverter-defibrillators and cardiac resynchronization therapy. J Am Coll Cardiol 2013;61:1318-68. doi: 10.1016/j.jacc.2012.12.017

Therapy Status - 1.3.6.1.4.1.19376.1.4.1.6.5.12

Selection	Definition	Source	Code	Code System
Yes (for 3 months)	The patient has been prescribed guideline directed medical therapy for at least 3 months. This may be coded if there is documentation of GDMT without a time frame, only if the abstractor can determine from the medical record that the patient has been on these exact medications for at least 3 months.		100001037	ACC NCDR
Not documented	There is no documentation of guideline directed medical therapy being prescribed.		100001036	ACC NCDR
Not attempted	Guideline directed medical therapy was not attempted on the patient.		100001035	ACC NCDR
Inability to complete	The patient was unable to continue the guideline directed medical therapy for 3 months or the patient is on guideline directed medical therapy but it has been less than 3 months. Without a definitive time documented or the ability to determine the timeframe from the medical record, it would be captured as Inability to Complete. The duration of treatment would default to less than 3 months since the timeframe was not able to be determined. Inability to Complete would also include patients started on GDMT where it has been less than 3 months since therapy was started, patient refusal, an allergy or absolute contraindication.		100001038	ACC NCDR

Section: Condition History Details **Parent: History and Risk Factors**

Element: 4010 NYHA Functional Classification

Coding Instruction: Indicate the patient's New York Heart Association (NYHA) Functional Classification based upon the physician documented classification at the time of the current procedure.

Note(s):
The NYHA Functional Classification must be specifically documented in the medical record and not coded by the abstractor based upon patient symptoms.

Target Value: The highest value on the first procedure in this admission

Supporting Definition: **NYHA**

The NYHA classes focus on exercise capacity and the symptomatic status of the disease.

Source: 2013 ACCF/AHA Guideline for the Management of Heart Failure; J Am Coll Cardiol. 2013;62(16):e147-e239. doi:10.1016/j.jacc.2013.05.019

NYHA Functional Classification - 1.3.6.1.4.1.19376.1.4.1.6.5.8

Selection	Definition	Source	Code	Code System
Class I	Patients with cardiac disease but without resulting limitations of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, or dyspnea.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	420300004	SNOMED CT
Class II	Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, or dyspnea.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	421704003	SNOMED CT
Class III	Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary activity causes fatigue, palpitation, or dyspnea.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	420913000	SNOMED CT
Class IV	Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms are present even at rest or minimal exertion. If any physical activity is undertaken, discomfort is increased.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	422293003	SNOMED CT

Element: 4295 Most Recent MI Date

Coding Instruction: Indicate the date of the most recent myocardial infarction.

Note(s):
When the patient has a history of an 'old or 'remote' MI documented in the medical record by the clinician and a time frame is unable to be determined from prior medical records or by consulting with the clinician, please code the MI as having occurred 5 years ago. For example: If the physician documents on 05/01/2020, that the patient has a history of MI, please code Most Recent MI Date, Seq. 4250, as 05/01/2015.

Target Value: The last value between birth and the first procedure in this admission

Element: 4545 Structural Abnormality Type

Coding Instruction: Indicate the structural abnormality type(s).

Target Value: Any occurrence between birth and the first procedure in this admission

Supporting Definition: **Structural Abnormality Type**

Left Ventricular Structural Abnormality Associated with Risk for Sudden Cardiac Arrest - Refer to the source for the supporting definition.

Hypertrophic Cardiomyopathy with High Risk Features:
High risk features include:
- Cardiac arrest (VF)
- Spontaneous sustained VT
- Family history of premature sudden death
- Unexplained syncope
- LV thickness greater than or equal to 30 mm
- Abnormal exercise BP
- Nonsustained spontaneous VT
- AF
- Myocardial ischemia
- LV outflow obstruction
- High-risk mutation
- Intense (competitive) physical exertion

Source: Zipes DP, Camm AJ, Borggrefe M, et al. ACC/AHA/ESC 2006 guidelines for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: a report of the American College of Cardiology/American Heart Association Task Force and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Develop Guidelines for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death). Circulation. 2006;114:e385-e484.

Section: Condition History Details **Parent: History and Risk Factors**

Cardiac Structural Abnormality Type - 1.3.6.1.4.1.19376.1.4.1.6.5.219

Selection	Definition	Source	Code	Code System
Arrhythmogenic right ventricular cardiomyopathy (ARVC)			281170005	SNOMED CT
Congenital heart disease associated with sudden cardiac arrest	Congenital heart disease including but not limited to Tetralogy of Fallot and Ventricular Septal Defect that put the patient at risk for sudden cardiac arrest.		13213009	SNOMED CT
Hypertrophic cardiomyopathy (HCM) with high risk features			233873004	SNOMED CT
Infiltrative	Infiltrative structural abnormalities including but not limited to amyloidosis, sarcoidosis, giant cell myocarditis, and Chagas disease.		100001018	ACC NCDR
LV structural abnormality associated with risk for sudden cardiac arrest	Left ventricular structural abnormalities including but not limited to left ventricular aneurysm, LV non-compaction syndrome that put the patient at risk for sudden cardiac arrest.		87878005	SNOMED CT

Element: 4170 Syndromes with Risk of Sudden Death Type

Coding Instruction: Indicate the type of syndrome that puts the patient at risk for sudden death.

Target Value: Any occurrence between birth and the first procedure in this admission

Syndrome Type - 1.3.6.1.4.1.19376.1.4.1.6.5.10

Selection	Definition	Source	Code	Code System
Brugada	Polymorphic ventricular tachycardia in the absence of structural heart disease, associated with a baseline ECG pattern during sinus rhythm showing right bundle branch block with ST segment elevation in leads V1 through V3. It can also be characterized by documentation of ECG patterns associated with Brugada Syndrome, some of which may be unmasked when provoked with drugs. The most common genetic mutations identified for Brugada syndrome are in a sodium channel gene (SCN5A). Sodium channel blocking drugs, therefore, may exacerbate the electrocardiographic features and clinical presentation. Brugada syndrome typically presents before the age of 50 years.		418818005	SNOMED CT
Catecholaminergic polymorphic VT	CPVT is a highly malignant inheritable cardiac channelopathy in individuals without structural heart disease and QT prolongation. It is often thought of as a disease of childhood with patients presenting before the age of 21 with symptoms such as syncope or sudden cardiac arrest; however, the adult form presents between the ages of 32-48. CVPT is triggered by physical or emotional stress in patients ECG is normal.	Michele A Murphy, MD; John D. Ferguson, ChB, MBExpert Analysis - The Athlete With Catecholaminergic Polymorphic Ventricular Tachycardia, from https://www.acc.org/latest-in-cardiology/articles/2017/07/27/07/49/the-athlete-with-catecholaminergic-polymorphic-ventricular-tachycardia, accessed Jul 28, 2017	100000956	ACC NCDR
Idiopathic/primary VT/VF	VT that occurs in patients without structural heart disease, metabolic abnormalities, or the long QT syndrome.	Hugh Calkins, in Catheter Ablation of Cardiac Arrhythmias (Second Edition), 2011	100001014	ACC NCDR
Long QT	Long QT syndrome (LQTS) describes a heterogeneous group of inherited channelopathies that confer risks of polymorphic ventricular tachycardia and sudden cardiac death. Diagnosis is clinical and is made on the basis of the presentation and electrocardiogram, with the probability of LQTS calculated by the Schwartz score. Genetic testing is generally advised; variants in KCNQ1, KCNH2, and SCN5A are responsible for LQT1, LQT2, and LQT3, respectively, accounting for approximately 75% of genetically resolved cases.	Grace AA, Matthews GDK. Phenotypic Landscape and Risk Management in Long QT Syndrome: Nudging Forward. J Am Coll Cardiol. 2018 Apr 17;71(15):1672-1675. doi: 10.1016/j.jacc.2018.02.040. PMID: 29650124.	9651007	SNOMED CT
Short QT	Short QT (SQT) refers to the electrocardiographic manifestation of accelerated cardiac repolarization. Gussak et al. were the first to suggest an association with atrial and ventricular fibrillation in 2000. The familial nature and arrhythmogenic potential of SQT were confirmed by Gaita et al. in 2003. Acquired disease – the most common cause– results from electrolyte disturbances or drugs, in addition to hypercalcemia, hyperkalemia, and acidosis; SQT manifests with digoxin, androgen use, increased vagal tone and after ventricular fibrillation (Cheng, 2004; Hancox, Choisy, & James, 2009; Ramakrishna et al., 2015). SQTS is a rare, sporadic or autosomal dominant disease that	Short QT Syndrome: Ossama K. Abou Hassan, MD; Bernard S Harbieh; Samir E. Alam, MD, FACC; Marwan Refaat, MD, FACC, from https://www.acc.org/latest-in-cardiology/articles/2016/10/05/08/06/short-qt-syndrome, accessed Oct 05, 2016	698272007	SNOMED CT

Section: Condition History Details **Parent: History and Risk Factors**

manifests with atrial and ventricular arrhythmias, sudden cardiac death and shortened QT (Brugada et al., 2004). Cardiac arrest occurs as the presenting symptom in up to 40% of the cases (Mazzanti et al., 2014). Mutations in potassium (KCNH2, KCNQ1, KCNJ2) and calcium (CACNA1C, CACNB2, CACNA2D1) channels have been identified as disease causing.

Element: 14720 Ventricular Fibrillation Date

Coding Instruction: Indicate the date of the ventricular fibrillation.

Target Value: The last value between birth and the first procedure in this admission

Supporting Definition: **Ventricular Fibrillation**

Rapid, usually more than 300 bpm (cycle length: 180 ms or less), grossly irregular ventricular rhythm with marked variability in QRS cycle length, morphology, and amplitude.

Source: JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96

Vendor Instruction: Ventricular Fibrillation Date (14720) must be Less than or Equal to Discharge Date (10101)

Element: 4250 Most Recent Ventricular Tachycardia Date

Coding Instruction: Indicate the date of the most recent ventricular tachycardia.

Note(s):
If the month or day of the ventricular tachycardia is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had "most recent ventricular tachycardia" documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Code the most recent and significant episode of VT. When the patient has a history of VT documented in the medical record by the clinician and a time frame is unable to be determined from prior medical records or by consulting with the clinician, please code the VT as having occurred 5 years ago. For example: If the physician documents on 05/01/2020, that the patient has a history of VT, please code Most Recent VT Date, Seq. 4250, as 05/01/2015.

Target Value: The last value between birth and the first procedure in this admission

Supporting Definition: **Ventricular Tachycardia**

Ventricular Tachycardia (VT) is a cardiac arrhythmia of 3 or more consecutive complexes in duration emanating from the ventricles at a rate 100 bpm (cycle length: 600 ms).

Source: JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96

Element: 4275 Ventricular Tachycardia Type

Coding Instruction: Indicate the type of ventricular tachycardia.

Note(s):
When only VT is documented code VT Type, Seq. 4275 as Non-sustained VT. If the VT is documented as sustained VT, code VT Type, Seq. 4275, as sustained monomorphic VT. If there is documentation of VT treated appropriately with ATP or Shock therapy or VT Arrest and the VT type is unknown, code as sustained monomorphic VT. If there are multiple episodes of VT, code the most significant episode of VT.

Target Value: Any occurrence between birth and the first procedure in this admission

Ventricular Tachycardia Type - 1.3.6.1.4.1.19376.1.4.1.6.5.13

Selection	Definition	Source	Code	Code System
Monomorphic	Sustained monomorphic ventricular tachycardia (VT) is VT >30 seconds in duration or requiring termination due to hemodynamic compromise in <30 seconds that has a stable, single QRS morphology.		251158004	SNOMED CT
Monomorphic and polymorphic VT	The patient has a history of both sustained monomorphic and sustained polymorphic ventricular tachycardia.		100001127	ACC NCDR
Non-sustained	Non-sustained or un-sustained ventricular tachycardia (VT) is three or more beats in duration, terminating spontaneously in <30 seconds. Non-sustained VT can be monomorphic or polymorphic.		444658006	SNOMED CT
Polymorphic VT	Sustained polymorphic ventricular tachycardia (VT) is VT >30 seconds in duration or requiring termination due to hemodynamic compromise in <30 seconds that has a changing or multiform QRS morphology at cycle length >180 milliseconds.		251159007	SNOMED CT

Element: 4255 Ventricular Tachycardia Occurred Post Cardiac Surgery

Coding Instruction: Indicate if the ventricular tachycardia occurred within the 48 hours after cardiac surgery.

Section: Condition History Details | **Parent: History and Risk Factors**

Note(s):
Occurred Post Cardiac Surgery, Seq.4255, refers to open chest surgery, for example: CABG or Valve replacement. If there are multiple episodes of VT, code the most significant episode of VT.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 4260 Bradycardia Dependent Ventricular Tachycardia

Coding Instruction: Indicate if the ventricular tachycardia is bradycardia dependent.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 4265 Ventricular Tachycardia Reversible Cause

Coding Instruction: Indicate if the ventricular tachycardia was deemed to be a result of a reversible cause. This could include, but is not limited to, drug abuse or electrolyte imbalance.

Target Value: Any occurrence between birth and the first procedure in this admission

Supporting Definition: **Ventricular Tachycardia Reversible Cause**

Definition of ventricular tachycardia due to a reversible cause.
The most common putative reversible causes of arrest are acute ischemia and electrolyte imbalance. Other common potential causes to which cardiac arrest is attributed include proarrhythmic effects of antiarrhythmic drugs (see supporting references).

1) Electrolyte abnormalities, including hypokalemia and hypomagnesemia, facilitate development of VT in predisposed patients receiving antiarrhythmic agents and other drugs associated with the LQTS. However, hypokalemia can also result from cardiac arrest and should not otherwise be assumed to be the cause of cardiac arrest, except under unusual circumstances.(see reference below) Correction of hypokalemia does not affect inducibility of monomorphic VT occurring after MI. Electrolyte abnormalities should not be assumed to be the cause of cardiac arrest, except in the presence of drug-induced LQTS.

2) Drugs: In patients who develop polymorphic VT in association with drug-induced QT prolongation, withdrawal of the offending antiarrhythmic or other agent (e.g., antipsychotic) is usually sufficient to prevent arrhythmia recurrence. If ventricular function is normal, no therapy beyond drug withdrawal, avoidance of future drug exposure, and correction of electrolyte abnormalities is necessary. However, if ventricular function is abnormal, cardiac arrest or syncope should not be attributed solely to antiarrhythmic drugs, and evaluation and treatment should be similar to patients experiencing such events in the absence of antiarrhythmic drugs. Occasionally, patients develop monomorphic sustained VT only in the presence of antiarrhythmic drugs without QT prolongation. In such cases, it may appear that the development of spontaneous VT is dependent on drug administration. In most patients exhibiting this behavior, the monomorphic VT is inducible by EP testing in the absence of antiarrhythmic drugs.

Source: ACC/AHA/ESC 2006 Guidelines for Management of Patients With Ventricular Arrhythmias

Element: 4270 Ventricular Tachycardia with Hemodynamic Instability

Coding Instruction: Indicate if the patient demonstrated hemodynamic instability while having episodes of sustained or non-sustained ventricular tachycardia.

Note(s):
Hemodynamic instability can include periods of reduced, unstable, or abnormal blood pressure with near syncope, or episodes of syncope. It creates a state of hypoperfusion that does not support normal organ perfusion or function.

Target Value: Any occurrence between birth and the first procedure in this admission

Section: Procedure History **Parent: History and Risk Factors**

Element: 12905 Procedure History Name

Coding Instruction: The procedures listed in this field are controlled by the Procedure History Master file. This file is maintained by the NCDR and will be made available for downloading and importing/updating into your application.

Target Value: N/A

Procedure History Names - 1.3.6.1.4.1.19376.1.4.1.6.5.928

Selection	Definition	Source	Code	Code System
Aortic valve procedure			112000001755	ACC NCDR
Coronary angiography			33367005	SNOMED CT
Coronary artery bypass graft			232717009	SNOMED CT
CV implantable electronic device (pacemaker or defibrillator)			100000954	ACC NCDR
Percutaneous coronary intervention			415070008	SNOMED CT

Element: 15511 Procedure History Occurrence

Coding Instruction: Indicate if the patient has or has not undergone the indicated medical procedure.

Target Value: Any occurrence between birth and arrival at this facility

Element: 15512 Procedure History Date

Coding Instruction: Indicate the date the procedure was performed.

Note(s):
If the month or day of the procedure is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had "most recent procedure" documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Target Value: The last value between birth and arrival at this facility

Vendor Instruction: Procedure History Date (15512) must be Less than or Equal to Arrival Date and Time (3001)

Section: Procedure History Details **Parent: History and Risk Factors**

Element: 4305 Performed After Most Recent Cardiac Arrest

Coding Instruction: Indicate if the coronary angiography was performed after the most recent cardiac arrest.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 4310 Results of Angiography

Coding Instruction: Indicate the result of the coronary angiography performed.

Target Value: Any occurrence between birth and the procedure

Angiography Results - 1.3.6.1.4.1.19376.1.4.1.6.5.239

Selection	Definition	Source	Code	Code System
Non-revascularizable significant disease	The patient is not a candidate for revascularization of their significant coronary artery disease.		100001220	ACC NCDR
No significant disease	There was <50% stenosis in the left main coronary artery and <70% in all major coronary artery branches >= 2.0 mm.		100000641	ACC NCDR
Significant disease	There was >= 50% stenosis in the left main coronary artery and/or >=70% stenosis in any major coronary artery (>= 2.0 mm).		100001223	ACC NCDR

Element: 4315 Revascularization Performed

Coding Instruction: Indicate if an attempt at revascularization of the coronary artery disease was performed.

Note(s):
The intent is to evaluate the status of the arteries and / or grafts at the time of the ICD implant. Code the status of the vessels/grafts at the time of the most recent catheterization.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 4320 Revascularization Outcome

Coding Instruction: Indicate the outcome of the revascularization.

Target Value: The last value between birth and current procedure

Revascularization Outcome - 1.3.6.1.4.1.19376.1.4.1.6.5.240

Selection	Definition	Source	Code	Code System
Complete revascularization	Residual stenosis <50% in all revascularizable diseased coronary arteries.		100001221	ACC NCDR
Incomplete revascularization	Not all revascularizable diseased coronary arteries resulted in <50% stenosis.		100001222	ACC NCDR

Element: 4530 Cardiomyopathy prior to Coronary Artery Bypass Graft

Coding Instruction: Indicate if the patient had pre-existing cardiomyopathy prior to the CABG procedure.

Note(s):
If there is no documentation regarding pre-existing cardiomyopathy, code No. If the patient has documentation of an LVEF < 40% as well as heart failure prior to CABG, code Yes.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 4510 Cardiomyopathy prior to PCI

Coding Instruction: Indicate if the patient had pre-existing cardiomyopathy prior to the PCI procedure.

Note(s):
If there is no documentation regarding pre-existing cardiomyopathy, code No. If the patient has documentation of an LVEF < 40% as well as heart failure prior to the PCI, code Yes.

Target Value: Any occurrence between birth and the first procedure in this admission

Section: History and Risk Factors **Parent: History and Risk Factors**

Element: 4561 Canadian Study of Health and Aging (CSHA) Clinical Frailty Scale

Coding Instruction: Indicate the Canadian Study of Health and Aging (CSHA) Clinical Frailty Scale of the patient.

Target Value: The last value prior to the start of the first procedure

CSHA Clinical Frailty Score - 1.3.6.1.4.1.19376.1.4.1.6.5.338

Selection	Definition	Source	Code	Code System
1: Very fit	CHSA Clinical Frailty Scale 1: Very Fit - People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.		1000142382	ACC NCDR
2: Well	CHSA Clinical Frailty Scale 2: Well - People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.		1000142383	ACC NCDR
3: Managing well	CHSA Clinical Frailty Scale 3: Managing Well - People whose medical problems are well controlled, but are not regularly active beyond routine walking.		1000142384	ACC NCDR
4: Vulnerable	CHSA Clinical Frailty Scale 4: Vulnerable - While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.		1000142385	ACC NCDR
5: Mildly frail	CHSA Clinical Frailty Scale 5: Mildly Frail - These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.		1000142386	ACC NCDR
6: Moderately frail	CHSA Clinical Frailty Scale 6: Moderately Frail - People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.		1000142387	ACC NCDR
7: Severely frail	CHSA Clinical Frailty Scale 7: Severely Frail - Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).		1000142388	ACC NCDR
8: Very severely frail	CHSA Clinical Frailty Scale 8: Very Severely Frail - Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.		1000142389	ACC NCDR
9: Terminally ill	CHSA Clinical Frailty Scale 9: Terminally Ill - Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.		1000142390	ACC NCDR

Section: EP Study **Parent: Diagnostic Studies**

Element: 5000 Electrophysiology Study

Coding Instruction: Indicate if the patient had an electrophysiology study (EPS).
Note(s): Code 'Yes' for an EP Study/Ablation performed for either ventricular or atrial arrhythmias prior to the start of the ICD procedure.

Target Value: Any occurrence between birth and the first procedure in this admission

Element: 5005 Electrophysiology Study Date

Coding Instruction: Indicate the date in which the most recent electrophysiology study (EPS) was performed.

Note(s):
If the month or day of the EP study is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had "most recent EP study" documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Target Value: Any occurrence between birth and the first procedure in this admission

Section: EP Study **Parent: EP Study**

Element: 5010 Electrophysiology Study Date Unknown

Coding Instruction: Indicate if the date when the electrophysiology study (EPS) was performed is unknown.

Target Value: The last value between birth and the first procedure in this admission

Element: 5015 Clinically Relevant Ventricular Arrhythmias Induced

Coding Instruction: Indicate if clinically relevant ventricular arrhythmias were induced during the electrophysiology study.

Notes(s):
A clinically relevant ventricular arrhythmia induced during electrophysiology study most often represents sustained monomorphic ventricular tachycardia, but can include other clinically relevant, sustained ventricular tachyarrhythmias thought to contribute to syncope, aborted cardiac death, or other serious clinical presentations.

Target Value: Any occurrence between birth and the first procedure in this admission

Section: Diagnostic Studies **Parent: Diagnostic Studies**

Element: 5030 Electrocardiogram Performed

Coding Instruction: Indicate if the patient had an electrocardiogram (ECG).

Target Value: The last value within 90 days of procedure start

Element: 5035 Electrocardiogram Date

Coding Instruction: Indicate the date in which the most recent electrocardiogram (ECG) was performed.

Target Value: The last value within 90 days of procedure start

Vendor Instruction: Electrocardiogram Date (5035) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 5040 Electrocardiogram Normal

Coding Instruction: Indicate if the electrocardiogram (ECG) clinical interpretation notes normal sinus rhythm ECG.

Target Value: The last value within 90 days of procedure start

Element: 5105 Ventricular Paced

Coding Instruction: Indicate if the patient is ventricular paced.

Note(s):
If no ECG is available, a pre-procedure 6 inch cardiac rhythm strip or clinician documentation may be utilized to obtain this information.

Target Value: The last value within 90 days of procedure start

Vendor Instruction: When Ventricular Paced (5105) is No then Only Ventricular Paced QRS Complexes Present (5045) must not be Yes

Element: 5045 Only Ventricular Paced QRS Complexes Present

Coding Instruction: Indicate if there were only ventricular paced QRS complexes present.

Note(s):
If the patient has some intrinsic ventricular complexes present, code “No”.

If no ECG is available, a pre-procedure 6 inch cardiac rhythm strip or clinician documentation may be utilized to obtain this information.

Target Value: The last value within 90 days of procedure start

Element: 5050 Ventricular Paced QRS Duration

Coding Instruction: Indicate the duration of the ventricular paced QRS complex in milliseconds that was derived from the surface electrocardiogram (ECG). Surface ECGs are obtained from the surface of the body and do not include intracardiac ECGs.

Note(s):
If no ECG is available, a pre-procedure 6-inch cardiac rhythm strip or clinician documentation may be utilized to obtain this information.

Provider documentation of QRS, BBB, and atrial rhythm will be utilized first, then the finding from most recent ECG. If neither are available, use a 6 inch rhythm strip or device interrogation to code QRS, BBB, and atrial rhythm. However, if a 6 inch rhythm strip is used, ECG, Seq. 5030, will be coded No. Use the following order to code:
1. Provider documentation, if not then
2. Most recent ECG, if not, then
3. 6 inch rhythm strip and/or device interrogation

Target Value: The last value within 90 days of procedure start

Element: 5055 Non-Ventricular Paced QRS duration

Coding Instruction: Indicate the duration of the non-ventricular paced or intrinsic QRS complex, in milliseconds, that was derived from the surface electrocardiogram (ECG). Surface ECGs are obtained from the surface of the body and do not include intracardiac ECGs.

Note(s):
If no ECG is available, a pre-procedure 6-inch cardiac rhythm strip or clinician documentation may be utilized to obtain this information.

Provider documentation of QRS, BBB, and atrial rhythm will be utilized first, then the finding from most recent ECG. If neither are available, use a 6 inch rhythm strip or device interrogation to code QRS, BBB, and atrial rhythm. However, if a 6 inch rhythm strip is used, ECG, Seq. 5030, will be coded No. Use the following order to code:
1. Provider documentation, if not then
2. Most recent ECG, if not, then
3. 6 inch rhythm strip and/or device interrogation

Target Value: The last value within 90 days of procedure start

Section: Diagnostic Studies **Parent: Diagnostic Studies**

Element: 5060 Abnormal Intraventricular Conduction

Coding Instruction: Indicate if the patient has abnormal intraventricular conduction, bundle branch blocks, or non-specific conduction delays.

Note(s):
Code 'No' if the abnormal intraventricular conduction is determined by the physician to be transient or rate related.

This data element is evaluating the current intrinsic rhythm, not a history.

Target Value: The last value within 90 days of procedure start

Element: 5065 Abnormal Intraventricular Conduction Types

Coding Instruction: Indicate the type of intraventricular conduction(s) the patient has.

Note(s):
If the patient has multiple intraventricular conduction types, select all types.

Target Value: The last value within 90 days of procedure start

Supporting Definition: **Intraventricular Conduction Types**

-Left Bundle Branch is characterized by QRS duration 120 ms or longer, delayed onset of intrinsicoid deflection in 1, V5, and V6 >60 ms, broad and notched or slurred R waves in I, aVL, V5, and V6, rS or QS complexes in right precordial leads, ST-segment and T waves in opposite polarity to the major QRS deflection.
-Non-Specific abnormal Intraventricular conduction delays are characterized by a QRS duration of 110 ms or more with morphology different from LBBB or RBBB.
-Right Bundle Branch Block is characterized by a QRS duration of 120 ms, rsR'or rSR' complexes in V1 and V2, Delayed onset of intrinsicoid, deflection in V1 and V2 >50 ms, Broad, slurred S wave in 1, V5, and V6 Secondary ST-T wave changes.

Source: ACC/AHA/HRS 2006 Key Data Elements and Definitions for Electrophysiological Studies and Procedures.

Intraventricular Conduction Types - 1.3.6.1.4.1.19376.1.4.1.6.5.117

Selection	Definition	Source	Code	Code System
Alternating RBBB and LBBB			32758004	SNOMED CT
Delay, nonspecific			698252002	SNOMED CT
Left bundle branch block (LBBB)			164909002	SNOMED CT
Right bundle branch block (RBBB)			164907000	SNOMED CT

Element: 5100 Atrial Rhythm

Coding Instruction: Indicate the patient's atrial rhythm at the start of the procedure.

Note: Prioritize the available data sources in this order:
1. Provider documentation
2. Most recent ECG
3. Six-inch rhythm strip and/or device interrogation

Target Value: The last value within 90 days of procedure start

Atrial Rhythm - 1.3.6.1.4.1.19376.1.4.1.6.5.187

Selection	Definition	Source	Code	Code System
Atrial fibrillation			49436004	SNOMED CT
Atrial flutter			5370000	SNOMED CT
Atrial paced			251268003	SNOMED CT
Atrial tachycardia			276796006	SNOMED CT
Sinus			106067008	SNOMED CT
Sinus arrest			5609005	SNOMED CT

Element: 4150 Prior LVEF Assessed

Coding Instruction: Indicate if a left ejection fraction percentage has been assessed.

Note: If the LVEF has a date or statement of date affiliated with it, which confirms it was performed in the last 12 months, then you are able to utilize that LVEF in coding. An LVEF measurement in a dictated note is not sufficient unless there is a date affiliated with it (e.g., LVEF asssessed May 2020).

Target Value: Any occurrence between 12 months prior to arrival and start of the first procedure

Element: 4155 Most Recent LVEF Date

Coding Instruction: Indicate the date of the implanting physician cited LVEF or the most recent LVEF assessed if the implanting physician value is not available.

Note(s):

Section: Diagnostic Studies	Parent: Diagnostic Studies

If the month or day of the LVEF is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had "most recent LVEF" documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

If the LVEF has a date or statement of date affiliated with it, which confirms it was performed in the last 12 months, then you are able to utilize that LVEF in coding. An LVEF measurement in a dictated note is not sufficient unless there is a date affiliated with it (e.g., LVEF assessed May 2020).

Target Value: Any occurrence between 12 months prior to arrival and start of the first procedure

Element: 4160 Most Recent LVEF %

Coding Instruction: Indicate the left ventricular ejection fraction cited by the implanting physician as the indication for the ICD. In the absence of a physician cited LVEF, indicate the most recent left ventricular ejection fraction. The left ventricular ejection fraction can be assessed via invasive (i.e. LV gram), or non-invasive (i.e. Echo, MR, CT or Nuclear) testing.

Note(s):
Enter a percentage in the range of 01 - 99. If a percentage range is reported, report the lowest number of the range (i.e.50-55%, is reported as 50%).
An LVEF measurement is reported as "less than" or "greater than", code to the nearest whole number (e.g., < 40% is coded 39% and > 40% is coded 41%).

Target Value: The last value between 12 months prior to arrival and start of the first procedure

Section: Pre-Procedure Information **Parent: Root**

Element: 4001 Heart Failure

Coding Instruction: Indicate if the patient has been diagnosed with heart failure.

Target Value: Any occurrence between birth and current procedure

Supporting Definition: **Heart Failure**

Heart failure is a complex clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection of blood. The cardinal manifestations of HF are dyspnea and fatigue, which may limit exercise tolerance, and fluid retention, which may lead to pulmonary and/or splanchnic congestion and/or peripheral edema. Some patients have exercise intolerance but little evidence of fluid retention, whereas others complain primarily of edema, dyspnea, or fatigue. Because some patients present without signs or symptoms of volume overload, the term "heart failure" is preferred over "congestive heart failure." There is no single diagnostic test for HF because it is largely a clinical diagnosis based on a careful history and physical examination.

Source: 2013 ACCF/AHA Guideline for the Management of Heart Failure; J Am Coll Cardiol. 2013;62(16):e147-e239. doi:10.1016/j.jacc.2013.05.019

Element: 4011 New York Heart Association Classification

Coding Instruction: Indicate the patient's latest dyspnea or functional class, coded as the New York Heart Association (NYHA) classification.

Note(s):
The NYHA Functional Classification must be specifically documented in the medical record and not coded by the abstractor based upon patient symptoms.

Target Value: The last value between birth and current procedure

Supporting Definition: **NYHA**

The NYHA classes focus on exercise capacity and the symptomatic status of the disease.

Source: 2013 ACCF/AHA Guideline for the Management of Heart Failure; J Am Coll Cardiol. 2013;62(16):e147-e239. doi:10.1016/j.jacc.2013.05.019

NYHA Functional Classification - 1.3.6.1.4.1.19376.1.4.1.6.5.8

Selection	Definition	Source	Code	Code System
Class I	Patients with cardiac disease but without resulting limitations of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, or dyspnea.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	420300004	SNOMED CT
Class II	Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, or dyspnea.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	421704003	SNOMED CT
Class III	Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary activity causes fatigue, palpitation, or dyspnea.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	420913000	SNOMED CT
Class IV	Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms are present even at rest or minimal exertion. If any physical activity is undertaken, discomfort is increased.	The Criteria Committee of the New York Heart Association. Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels. 9th ed. Boston, Mass: Little, Brown & Co; 1994:253-256.	422293003	SNOMED CT

Element: 4012 Heart Failure Newly Diagnosed

Coding Instruction: Indicate if the heart failure was newly diagnosed.

Note: Code 'Yes' (newly diagnosed) if there is no documentation of a prior diagnosis of heart failure.

Target Value: The last value between birth and current procedure

Element: 4013 Heart Failure Type

Coding Instruction: Indicate the type of heart failure as classified by the patient's left ventricular ejection fraction.

Target Value: The last value between birth and current procedure

Heart Failure Type - 1.3.6.1.4.1.19376.1.4.1.6.5.942

Selection	Definition	Source	Code	Code System
HF with reduced EF	Heart failure with reduced ejection fraction (HFrEF) is also referred to as systolic HF or cardiomyopathy. HF in a patient with documented LVEF of <=40%.	Bozkurt B, Hershberger RE, Butler J, et.al 2021 ACC/AHA key data elements and definitions for heart failure: a report of the American College of Cardiology/ American Heart Association Task Force on Clinical Data Standards (Writing Committee to Develop Clinical Data Standards for Heart Failure). J Am Coll Cardiol. 2021;77:2053–150.	703272007	SNOMED CT
HF with preserved EF	Heart failure with preserved ejection fraction (HFpEF)	Bozkurt B, Hershberger RE, Butler J, et.al 2021	446221000	SNOMED CT

Section: Pre-Procedure Information		Parent: Root		
	is HF in a patient with documented LVEF of >=50%.	ACC/AHA key data elements and definitions for heart failure: a report of the American College of Cardiology/ American Heart Association Task Force on Clinical Data Standards (Writing Committee to Develop Clinical Data Standards for Heart Failure). J Am Coll Cardiol. 2021;77:2053–150.		
HF with mid-range EF	Heart Failure with mid range ejection fraction (HFmEF) is HF in a patient with documented LVEF >40% and <50%	Bozkurt B, Hershberger RE, Butler J, et.al 2021 ACC/AHA key data elements and definitions for heart failure: a report of the American College of Cardiology/ American Heart Association Task Force on Clinical Data Standards (Writing Committee to Develop Clinical Data Standards for Heart Failure). J Am Coll Cardiol. 2021;77:2053–150.	78895000	SNOMED CT

Element: 4014 Heart Failure Type Unknown

Coding Instruction: Indicate if the type of heart failure is unknown.

Target Value: The last value between birth and current procedure

Section: Diagnostic Test **Parent: Pre-Procedure Information**

Element: 5037 Electrocardiac Assessment Method

Coding Instruction: Indicate the method used for electrocardiac assessment (abnormal, uninterpretable or normal).

Note(s): The coding instructions are hierarchical and should be applied as follows:

1.) Capture the assessment method that identified the last "abnormal" electrocardiac value between 30 days prior to first procedure (or previous procedure) and current procedure, if an abnormal electrocardiac value was not observed then

2.) Capture the assessment method that identified the last "uninterpretable" electrocardiac value between 30 days prior to first procedure (or previous procedure) and current procedure, if an uninterpretable electrocardiac value was not observed then

3.) Capture the assessment method that identified the last "normal" electrocardiac value between 30 days prior to first procedure (or previous procedure) and current procedure

4.) If an electrocardiac assessment was not performed, please code "None."

Target Value: Last value between 30 days prior to 1st procedure (or previous procedure) and current procedure

Electrocardiac Assessment Type

Selection	Definition	Source	Code	Code System
ECG			164847006	SNOMED CT
Telemetry monitor			10001424802	ACC NCDR
Holter monitor			86184003	SNOMED CT
Other			10001424803	ACC NCDR
None	No Electrocardiac Assessment Performed		10001424804	ACC NCDR

Element: 5032 Electrocardiac Assessment Results

Coding Instruction: Indicate the results (abnormal, uninterpretable or normal) of the electrocardiac assessment

Note(s): The coding instructions are hierarchical and should be applied as follows:

1.) Select 'abnormal' if the electrocardiac assessment identifies a heart rate and/or a rhythm that is abnormal AND clinically relevant for the patient.

2.) Select 'uninterpretable' when there is specific documentation that a determination (normal vs abnormal) of the heart's electrical activity could not be made.

3.) Please select 'normal' when none of the above apply.

Target Value: Last value between 30 days prior to 1st procedure (or previous procedure) and current procedure

ECG Results - 1.3.6.1.4.1.19376.1.4.1.6.5.941

Selection	Definition	Source	Code	Code System
Normal	No evidence that the patient has a clinically relevant electrical dysfunction of the heart (rate, rhythm).		164854000	SNOMED CT
Abnormal	Evidence that the patient has a clinically relevant electrical dysfunction of the heart (rate, rhythm).		263654008	SNOMED CT
Uninterpretable	A determination cannot be made if the patient has a clinically relevant electrical dysfunction of the heart (rate, rhythm).		1000142468	ACC NCDR

Element: 5033 New Antiarrhythmic Therapy Initiated Prior to Cath Lab

Coding Instruction: Indicate if the patient received a NEW antiarrhythmic therapy PRIOR to evaluation within the cath lab.

Note(s):
New Antiarrhythmic therapy is defined as initiation of a new drug to the patient for the purpose of controlling an abnormal rhythm.

Target Value: Last value between 30 days prior to 1st procedure (or previous procedure) and current procedure

Element: 5034 Electrocardiac Abnormality Type

Coding Instruction: Indicate the findings of the electrocardiac assessment.

Note(s): Select all abnormal electrocardiac findings that meet the definition and/or are supported by physician diagnosis.

Target Value: All values between 30 days prior to 1st procedure (or previous procedure) and current procedure

ECG Findings

Selection	Definition	Source	Code	Code System
Exercise induced VT			1000142470	ACC NCDR
New left bundle branch block	New = Not previously documented		100014019	ACC NCDR
New onset atrial fibrillation	New = Not previously documented		1000142476	ACC NCDR

Section: Diagnostic Test		Parent: Pre-Procedure Information		
New onset atrial flutter	New = Not previously documented		1000142477	ACC NCDR
Non sustained VT	Three or more consecutive beats of VT that self-terminate in <30 seconds.		444658006	SNOMED CT
PVC - frequent	More than 30 premature ventricular contractions (PVCs) per hour.		1000142471	ACC NCDR
PVC - infrequent	Less than or equal to 30 premature ventricular contractions (PVCs) per hour.		1000142472	ACC NCDR
ST deviation >= 0.5 mm	ST segment deviation (elevation, depression) of 0.5 millimeters or greater.		10001424809	ACC NCDR
Sustained VT	Ventricular tachycardia (VT) that is >30 seconds in duration and/or requires termination due to hemodynamic compromise in <30 seconds.		426525004	SNOMED CT
Symptomatic bradyarrhythmia	Heart rate under 60 beats per minute that is associated with symptoms of fatigue, weakness, dizziness, sweating and/or syncope		1000142473	ACC NCDR
Ventricular fibrillation (VF)	Fibrillation is an uncontrolled twitching or quivering of muscle fibers occurring in the lower chambers of the heart (ventricles).	JACC Vol. 48, No. 11, 2006 ACC/AHA/HRS Clinical Data Standards December 5, 2006:2360-96	71908006	SNOMED CT
Other abnormality	Electrocardiac abnormality noted but the specific type is not available for selection within the registry.		1000142474	ACC NCDR

Element: 5200 Stress Test Performed

Coding Instruction: Indicate if a non-invasive stress test was performed.

Notes: When the target value is separated into two distinct thoughts, it is easier to apply to the patient scenario .

• When the patient presents for a new episode of care, apply this portion of the target value: “Last value between birth and current procedure.”

• When the patient presents to the Cath lab after having a diagnostic coronary angiogram and/or PCI during the episode of care, apply this portion of the target value: “Last value between previous procedure and current procedure.”

Target Value: Last value between birth (or previous procedure) and current procedure

Element: 5201 Stress Test Performed Type

Coding Instruction: Indicate the type of non-invasive stress test performed.

Target Value: Last value between birth (or previous procedure) and current procedure

Stress Test - 2.16.840.1.113883.3.3478.6.6.10

Selection	Definition	Source	Code	Code System
Exercise stress test (w/o imaging)	Continuous ECG recording/monitoring test (without additional imaging) performed initially at rest and then during exercise, or pharmacologic stress to detect the presence of coronary artery disease, abnormal heart rhythms, abnormal blood pressure response to exercise, or evaluate exercise tolerance and exercise-related symptoms.		18752-6	LOINC
Stress echocardiogram	Cardiac ultrasound procedure obtained at rest and during exercise or pharmacologic stress.		18107-3	LOINC
Stress imaging w/CMR	Magnetic resonance imaging of the heart at rest and during exercise or pharmacologic stress		58750-1	LOINC
Stress nuclear	A nuclear stress test measures blood flow to the heart at rest, and during exercise or pharmacologic stress, by comparing the distribution throughout the heart of a radioactive dye injected into the bloodstream.		49569-7	LOINC

Element: 5204 Stress Test Date

Coding Instruction: Indicate the most recent date of the stress test.

Target Value: Last value between birth (or previous procedure) and current procedure

Vendor Instruction: Most Recent Stress Test Date (5204) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 5202 Stress Test Results

Coding Instruction: Indicate the result of the non-invasive stress test.

Target Value: Last value between birth (or previous procedure) and current procedure

Stress Test Result - 1.3.6.1.4.1.19376.1.4.1.6.5.714

Selection	Definition	Source	Code	Code System
Negative	Stress Test: Exercise Stress Test (w/o imaging)		100013083	ACC NCDR

Section: Diagnostic Test **Parent: Pre-Procedure Information**

	• A stress test is negative when the electrocardiogram (ECG) is normal or not suggestive of ischemia. ECGs are not suggestive of ischemia when < 1 mm of horizontal or downsloping ST-segment depression or elevation for >= 60-80 milliseconds after the end of the QRS complex, either during or after exercise. Stress Test: Stress Echocardiogram • The imaging study was normal. There was no change in wall motion during the procedure. Stress Test: Stress Nuclear • The results of the imaging study revealed no myocardial perfusion defects. Stress Test: Stress Imaging with CMR • The results of the imaging study revealed no myocardial perfusion defects.		
Positive	Stress Test: Exercise Stress Test (w/o imaging) • A stress test is positive when the electrocardiogram (ECG) suggests ischemia. ECGs suggestive of ischemia can be described as having >= 1 mm of horizontal or downsloping ST-segment depression or elevation for >= 60-80 milliseconds after the end of the QRS complex, either during or after exercise. It is also be suggestive of ischemia if the patient had symptoms of ischemia (i.e.chest pain), arrhythmias, and/or a fall in blood pressure during or immediately after the procedure. Stress Test: Stress Echocardiogram • The imaging study was abnormal. There were changes that reflected wall motion abnormalities during the procedure. Stress Test: Stress Nuclear • The result of the imaging study revealed one or more stress-induced myocardial perfusion defects. Stress Test: Stress Imaging with CMR • The result of the imaging study revealed one or more stress-induced myocardial perfusion defects.	100013093	ACC NCDR
Indeterminate	The results of the study were uninterpretable. They cannot be considered to be positive or negative.	100013094	ACC NCDR
Unavailable	The results of the study were not available.	100000646	ACC NCDR

Element: 5203 Stress Test Risk/Extent of Ischemia

Coding Instruction: Indicate the risk or extent of ischemia for the non-invasive stress test.

Target Value: Last value between birth (or previous procedure) and current procedure

Risk/Extent of Ischemia - 1.3.6.1.4.1.19376.1.4.1.6.5.901

Selection	Definition	Source	Code	Code System
Low	Low risk (<1% annual death or MI) 1. Low-risk treadmill score (score >=5) or no new ST segment changes or exercise-induced chest pain symptoms; when achieving maximal levels of exercise 2. Normal or small myocardial perfusion defect at rest or with stress encumbering <5% of the myocardium* 3. Normal stress or no change of limited resting wall motion abnormalities during stress *Although the published data are limited; patients with these findings will probably not be at low risk in the presence of either a high-risk treadmill score or severe resting LV dysfunction (LVEF <35%).		100013097	ACC NCDR
Intermediate	Intermediate risk (1% to 3% annual death or MI) 1. Mild/moderate resting LV dysfunction (LVEF 35% to 49%) not readily explained by noncoronary causes 2. Resting perfusion abnormalities in 5% to 9.9% of the myocardium in patients without a history or prior evidence of MI 3. >=1 mm of ST-segment depression occurring with exertional symptoms 4. Stress-induced perfusion abnormalities encumbering 5% to 9.9% of the myocardium or stress segmental		100013098	ACC NCDR

Section: Diagnostic Test **Parent: Pre-Procedure Information**

	scores (in multiple segments) indicating 1 vascular territory with abnormalities but without LV dilation 5. Small wall motion abnormality involving 1 to 2 segments and only 1 coronary bed		
High	High risk (>3% annual death or MI) 1. Severe resting LV dysfunction (LVEF <35%) not readily explained by noncoronary causes 2. Resting perfusion abnormalities >=10% of the myocardium in patients without prior history or evidence of MI 3. Stress ECG findings including >=2 mm of ST-segment depression at low workload or persisting into recovery, exercise-induced ST-segment elevation, or exercise-induced VT/VF 4. Severe stress-induced LV dysfunction (peak exercise LVEF <45% or drop in LVEF with stress >=10%) 5. Stress-induced perfusion abnormalities encumbering >=10% myocardium or stress segmental scores indicating multiple vascular territories with abnormalities 6. Stress-induced LV dilation 7. Inducible wall motion abnormality (involving >2 segments or 2 coronary beds) 8. Wall motion abnormality developing at low dose of dobutamine (<=10 mg/kg/min) or at a low heart rate (<120 beats/min)	100000584	ACC NCDR
Unavailable	The results of the study were not available.	100000646	ACC NCDR

Element: 5220 Cardiac CTA Performed

Coding Instruction: Indicate if a cardiac computerized tomographic angiography (CTA) was performed.

Notes: When the target value is separated into two distinct thoughts, it is easier to apply to the patient scenario.

• When the patient presents for a new episode of care, apply this portion of the target value: “Last value between birth and current procedure.”

• When the patient presents to the Cath lab after having a diagnostic coronary angiogram and/or PCI during the episode of care, apply this portion of the target value: “Last value between previous procedure and current procedure.”

Target Value: Any occurrence between birth (or previous procedure) and current procedure

Element: 5226 Cardiac CTA Date

Coding Instruction: Indicate the most recent date a cardiac computerized tomographic angiography (CTA) was performed.

Target Value: Last value between birth (or previous procedure) and current procedure

Vendor Instruction: Cardiac CTA Date (5226) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 5227 Cardiac CTA Results

Coding Instruction: Indicate the results of the cardiac CTA.

Target Value: Last value between birth (or previous procedure) and current procedure

Prior Dx P Angiography Results

Selection	Definition	Source	Code	Code System
Obstructive CAD	Greater than or equal to 50% luminal diameter narrowing of an epicardial or left main stenosis.		10001424786	ACC NCDR
Non-obstructive CAD	Less than 50% luminal diameter narrowing of an epicardial or left main stenosis.		10001424787	ACC NCDR
Unclear severity	Coronary artery disease severity is unclear or conflicting.		100001262	ACC NCDR
Structural disease	An abnormality of the heart that is non- coronary, meaning that it does not affect the blood vessels in the heart, but rather involves the valves, walls or chambers.		128599005	SNOMED CT
No CAD	No evidence of coronary artery disease.		10001424789	ACC NCDR

Element: 5228 Cardiac CTA Results Unknown

Coding Instruction: Indicate if the results of the cardiac CTA are unknown.

Target Value: Last value between birth (or previous procedure) and current procedure

Section: Diagnostic Test | **Parent: Pre-Procedure Information**

Element: 5256 — Agatston Calcium Score Assessed

Coding Instruction: Indicate if the agatston coronary calcium score was assessed.

Notes: When the target value is separated into two distinct thoughts, it is easier to apply to the patient scenario:

• When the patient presents for a new episode of care, apply this portion of the target value: “Last value between birth and current procedure.”

• When the patient presents to the Cath lab after having a diagnostic coronary angiogram and/or PCI during the episode of care, apply this portion of the target value: “any occurrence between previous procedure and current procedure.”

Target Value: Any occurrence between birth (or previous procedure) and current procedure

Element: 5255 — Agatston Calcium Score

Coding Instruction: Indicate the total agatston coronary calcium score.

Target Value: Last value between birth (or previous procedure) and current procedure

Supporting Definition: **Agatston Calcium Score**

After a coronary calcium scan, a calcium score called an Agatston score is provided. The score is based on the amount of calcium found in the coronary (heart) arteries. The test may get an Agatston score for each major artery and a total score.

Source: https://www.nhlbi.nih.gov/health/health-topics/topics/cscan/show

Element: 5257 — Agatston Calcium Score Date

Coding Instruction: Indicate the most recent date of the agatston calcium score.

Target Value: Last value between birth (or previous procedure) and current procedure

Vendor Instruction: Agatston Calcium Score Date (5257) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 5263 — Prior Diagnostic Coronary Angiography Procedure without intervention

Coding Instruction: Indicate if the patient had a prior diagnostic coronary angiography procedure without a subsequent intervention.

Note(s):
Code "No" if the most recent Cath lab visit involved PCI.

Target Value: Any occurrence between birth (or previous procedure) and current procedure

Element: 5264 — Prior Diagnostic Coronary Angiography Procedure Date

Coding Instruction: Indicate the date of the prior diagnostic coronary angiography.

Target Value: Last value between birth (or previous procedure) and current procedure

Vendor Instruction: Prior Diagnostic Coronary Angiography Procedure Date (5264) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 5265 — Prior Diagnostic Coronary Angiography Procedure Results

Coding Instruction: Indicate the results of the prior diagnostic coronary angiography.

Target Value: Last value between birth (or previous procedure) and current procedure

Prior Dx P Angiography Results

Selection	Definition	Source	Code	Code System
Obstructive CAD	Greater than or equal to 50% luminal diameter narrowing of an epicardial or left main stenosis.		10001424786	ACC NCDR
Non-obstructive CAD	Less than 50% luminal diameter narrowing of an epicardial or left main stenosis.		10001424787	ACC NCDR
Unclear severity	Coronary artery disease severity is unclear or conflicting.		100001262	ACC NCDR
Structural disease	An abnormality of the heart that is non- coronary, meaning that it does not affect the blood vessels in the heart, but rather involves the valves, walls or chambers.		128599005	SNOMED CT
No CAD	No evidence of coronary artery disease.		10001424789	ACC NCDR

Element: 5266 — Prior Diagnostic Coronary Angiography Procedure Results Unknown

Coding Instruction: Indicate if the prior diagnostic coronary angiography results are unknown.

Target Value: Last value between birth (or previous procedure) and current procedure

Section: Pre-Procedure Medications **Parent: Pre-Procedure Information**

Element: 6986 PreProcedure Medication Code

Coding Instruction: Indicate the assigned identification number associated with the medications the patient was prescribed or received.

Note: The medications that should be collected in your application are controlled by a Medication Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application. Each medication in the Medication Master file is assigned a timing indicator. This indicator is used to separate procedural medications from medications prescribed at discharge. The separation of these medications is depicted on the data collection form.

Target Value: N/A

Vendor Instruction: PreProcedure Medication Code (6986) must not be duplicated in a procedure

Pre-Procedure Medication - 1.3.6.1.4.1.19376.1.4.1.6.5.216

Selection	Definition	Source	Code	Code System
Aspirin			1191	RxNorm
Beta blockers (Any)			33252009	SNOMED CT
Calcium channel blockers (Any)			48698004	SNOMED CT
Long acting nitrates (Any)			31970009	SNOMED CT
Ranolazine			35829	RxNorm

Element: 6991 PreProcedure Medication Administered

Coding Instruction: Indicate if the patient was prescribed or received the medication.

Note(s):
Code 'No' if a patient was given a sublingual, IV, or short acting formula of one of these medications.

Code 'Yes' if the patient received an oral (long-acting formula) of the medication after admission but prior to this cath lab visit.

Target Value: Any occurrence between 2 weeks prior to current procedure and current procedure

Pre-Procedure Y/N/C Medication Administration

Selection	Definition	Source	Code	Code System
No			112000000168	ACC NCDR
Yes			100001247	ACC NCDR
Contraindicated	A contraindication is a specific situation in which a drug should not be used because a clinician deems it may be harmful to the patient. Examples include allergy, adverse drug interaction, comorbid condition, pregnancy.		100013074	ACC NCDR

Section: Pre-Procedure Labs **Parent: Pre-Procedure Information**

Element: 6050 Creatinine

Coding Instruction: Indicate the creatinine (Cr) level mg/dL.

Note(s):
This may include POC (Point of Care) testing results or results obtained prior to arrival at this facility.

Target Value: The last value between 30 days prior to the procedure and the current procedure

Supporting Definition: **Creatinine**

Creatinine or creatine anhydride, is a breakdown product of creatine phosphate in muscle. The loss of water molecule from creatine results in the formation of creatinine. It is transferred to the kidneys by blood plasma, whereupon it is eliminated by glomerular filtration and partial tubular excretion. Creatinine is usually produced at a fairly constant rate and measuring its serum level is a simple test. A rise in blood creatinine levels is observed only with marked damage to functioning nephrons; therefore this test is not suitable for detecting early kidney disease. Creatine and creatinine are metabolized in the kidneys, muscle, liver and pancreas.

Source: http://s.details.loinc.org/LOINC/2160-0.html?sections=Simple

Element: 6051 Creatinine Not Drawn

Coding Instruction: Indicate if a creatinine level was not drawn.

Target Value: N/A

Element: 6030 Hemoglobin

Coding Instruction: Indicate the hemoglobin (Hgb) value in g/dL.

Note(s):
This may include POC (Point of Care) testing results or results obtained prior to arrival at this facility.

Target Value: The last value within 30 days prior to the first procedure in this admission

Supporting Definition: **Hemoglobin**

Hemoglobin (Hb or Hgb) is the iron-containing oxygen-transport metalloprotein in the red blood cells. It carries oxygen from the lungs to the rest of the body (i.e. the tissues) where it releases the oxygen to burn nutrients and provide energy. Hemoglobin concentration measurement is among the most commonly performed blood tests, usually as part of a complete blood count. If the concentration is below normal, this is called anemia. Anemias are classified by the size of red blood cells: "microcytic" if red cells are small, "macrocytic" if they are large, and "normocytic" if otherwise. Dehydration or hyperhydration can greatly influence measured hemoglobin levels.

Source: http://s.details.loinc.org/LOINC/718-7.html?sections=Simple

Element: 6031 Hemoglobin Not Drawn

Coding Instruction: Indicate if the hemoglobin was not drawn.

Target Value: The last value within 30 days prior to the first procedure in this admission

Element: 6100 Total Cholesterol

Coding Instruction: Indicate the cholesterol level mg/dL.

Target Value: Any occurrence between 30 days prior to the procedure and the procedure

Supporting Definition: **Cholesterol**

Cholesterol is a lipidic, waxy alcohol found in the cell membranes and transported in the blood plasma of all animals. It is an essential component of mammalian cell membranes where it establishes proper membrane permeability and fluidity. Cholesterol is the principal sterol synthesized by animals, but small quantities are synthesized in other eukaryotes, such as plants and fungi. It is almost completely absent among prokaryotes, which include bacteria. Cholesterol is classified as a sterol.

Element: 6101 Total Cholesterol Not Drawn

Coding Instruction: Indicate if the total cholesterol was not collected.

Target Value: Any occurrence between 30 days prior to the procedure and the procedure

Element: 6105 High-density Lipoprotein

Coding Instruction: Indicate the high-density lipoprotein (HDL) level mg/dL.

Target Value: Any occurrence between 30 days prior to the procedure and the procedure

Supporting Definition: **High-density lipoprotein**

High-density lipoprotein (HDL) is one of the five major groups of lipoproteins (chylomicrons, VLDL, IDL, LDL, HDL) which enable lipids like

Section: Pre-Procedure Labs **Parent: Pre-Procedure Information**

cholesterol and triglycerides to be transported within the water based blood stream. In healthy individuals, about thirty percent of blood cholesterol is carried by HDL. High levels of cholesterol in the blood have been linked to damage to arteries and cardiovascular disease.

Source: Regenstrief Institute, Inc. All Rights Reserved. To the extent included herein, the LOINC table and LOINC codes are copyright © 1995-2015, Regenstrief Institute, Inc. and the Logical Observation Identifiers Names and Codes (LOINC) Committee.

Element: 6106 High-density Lipoprotein Not Drawn

Coding Instruction: Indicate if the high density lipoprotein (HDL) cholesterol value was not drawn.

Target Value: Any occurrence between 30 days prior to the procedure and the procedure

Element: 6025 Blood Urea Nitrogen

Coding Instruction: Indicate the blood urea nitrogen (BUN) value, in mg/dL.

Note(s):
When the value falls outside of the usual range (Example: Bun is > 20 but less than 99), an "Outlier Warning" will be displayed in the quality check. This will not affect DQR submission. It is a notification to double check the entered value. If the BUN value is greater than the valid range (over 100), code “99”.

Target Value: The last value within 30 days prior to the first procedure in this admission

Supporting Definition: **Blood Urea Nitrogen**

Urea, also called carbamide, is an organic chemical compound involved in the metabolism of nitrogen-containing compounds and in the re-absorption of water and critical ions from excreted urine, an important mechanism in prevention of water loss and maintaining blood pressure. Urea levels are measured to diagnose conditions that affect the kidneys, such as acute kidney failure or end-stage renal disease (ESRD). The blood urea nitrogen (BUN) and the urine urea nitrogen (UUN) tests may be used to determine how well a patient's kidneys are functioning. Increased or decreased levels of urea may also suggest dehydration or increased protein intake.

Source: http://s.details.loinc.org/LOINC/6299-2.html?sections=Simple

Element: 6026 BUN Not Drawn

Coding Instruction: Indicate if a blood urea nitrogen (BUN) was not drawn.

Target Value: The last value within 30 days prior to the first procedure in this admission

Supporting Definition: **Blood Urea Nitrogen**

Urea, also called carbamide, is an organic chemical compound involved in the metabolism of nitrogen-containing compounds and in the re-absorption of water and critical ions from excreted urine, an important mechanism in prevention of water loss and maintaining blood pressure. Urea levels are measured to diagnose conditions that affect the kidneys, such as acute kidney failure or end-stage renal disease (ESRD). The blood urea nitrogen (BUN) and the urine urea nitrogen (UUN) tests may be used to determine how well a patient's kidneys are functioning. Increased or decreased levels of urea may also suggest dehydration or increased protein intake.

Source: http://s.details.loinc.org/LOINC/6299-2.html?sections=Simple

Element: 6035 Sodium

Coding Instruction: Indicate the sodium (Na) level, in mEq/L.

Target Value: The last value within 30 days prior to the first procedure in this admission

Supporting Definition: **Sodium**

Sodium is an essential nutrient that regulates blood volume, blood pressure, osmotic equilibrium and electrolyte balance. Sodium chloride is the principal source of sodium in the diet, and is used for seasoning and as a preservative. Increased levels of sodium intake can cause hypertension and reportedly leads to 7.6 million premature deaths worldwide. Sodium is also important in neuron function and osmoregulation between cells and the extracellular fluid.

Source: http://s.details.loinc.org/LOINC/2950-4.html?sections=Simple

Element: 6036 Sodium Not Drawn

Coding Instruction: Indicate if the sodium level was not drawn.

Target Value: The last value within 30 days prior to the first procedure in this admission

Supporting Definition: **Sodium**

Sodium is an essential nutrient that regulates blood volume, blood pressure, osmotic equilibrium and electrolyte balance. Sodium chloride is the principal source of sodium in the diet, and is used for seasoning and as a preservative. Increased levels of sodium intake can cause hypertension and reportedly leads to 7.6 million premature deaths worldwide. Sodium is also important in neuron function and osmoregulation between cells and the extracellular fluid.

Source: http://s.details.loinc.org/LOINC/2950-4.html?sections=Simple

Section: Procedure **Parent: Lab Visit**

Element: 15694 Procedure Room Entry Date and Time

Coding Instruction: Indicate the date and time the patient entered the procedure room.

Target Value: The value on current procedure

Vendor Instruction: Procedure Room Entry Date and Time (15694) must be Greater than or Equal to Arrival Date and Time (3001).

Procedure Room Entry Date and Time (15694) must be Less than Procedure End Date and Time (7005).

Element: 7000 Procedure Start Date and Time

Coding Instruction: Indicate the date and time the procedure started, to the nearest minute. The time of the procedure is the time that the skin incision, vascular access, or its equivalent, was made in order to start the procedure.

Note:
Indicate the time (hours:minutes) using the military 24-hour clock, beginning at midnight (0000 hours).

Target Value: Any occurrence on current procedure

Vendor Instruction: Procedure Start Date and Time (7000) must be Greater than or Equal to Arrival Date and Time (3001)

Procedure Start Date and Time (7000) must be Greater than or Equal to Procedure History Date (15512)

Element: 7005 Procedure End Date and Time

Coding Instruction: Indicate the ending date and time at which the operator breaks scrub at the end of the procedure.

Note:
Indicate the time (hours: minutes) using the military 24-hour clock, beginning at midnight (0000 hours).

If more than one operator is involved in the case, then use the date and time the last operator breaks scrub for the last time.

Target Value: The value on current procedure

Vendor Instruction: Procedure End Date and Time (7005) must be Greater than Procedure Start Date and Time (7000)

Procedure End Date and Time (7005) must be Less than or Equal to Discharge Date and Time (10101)

Element: 15695 Procedure Room Exit Date and Time

Coding Instruction: Indicate the date and time the patient exits the procedure room.

Target Value: The value on current procedure

Vendor Instruction: Procedure Room Exit Date and Time (15695) must be Less than or Equal to Discharge Date/Time (10101).

Element: 15607 Procedure Type

Coding Instruction: Indicate all procedures that were performed.

Target Value: All values between start of procedure and end of procedure

Vendor Instruction: When Procedure Type (15607) is Generator explant then Device Explanted (7660) must not be Not explanted, Previously explanted

When CV ASC Pathway (15606) is Implantable Cardiac Defibrillator or Permanent Pacemaker, Procedure type (15607) must only have one selection.

ASC Procedure Type - 1.3.6.1.4.1.19376.1.4.1.6.5.936

Selection	Definition	Source	Code	Code System
Diagnostic coronary angiography	A diagnostic coronary angiography is the passage of a catheter into the aortic root or other great vessels for the purpose of angiography of the native coronary arteries or bypass grafts supplying native coronary arteries.		41976001	SNOMED CT
Percutaneous coronary intervention	A percutaneous coronary intervention (PCI) is the placement of an angioplasty guide wire, balloon, or other device (e.g. stent, atherectomy, brachytherapy, or thrombectomy catheter) into a native coronary artery or coronary artery bypass graft for the purpose of mechanical coronary revascularization.		415070008	SNOMED CT
Generator change	The patient already has a device and is receiving a generator that is an upgrade or a change from one that was previously implanted.		428625001	SNOMED CT
Generator explant	Patient already has a device and is having the generator removed without re-implant of another generator during the current procedure.		233171004	SNOMED CT

Section: Procedure		Parent: Lab Visit	
Initial generator implant	The patient is receiving a device for the first time.	233170003	SNOMED CT

Section: Diagnostic Coronary Angiography Operator **Parent: Operator Information**

Element: 7046 Diagnostic Catheterization Operator Last Name

Coding Instruction: Indicate the last name of the operator who is performing the diagnostic catheterization.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7047 Diagnostic Catheterization Operator First Name

Coding Instruction: Indicate the first name of the operator who is performing the diagnostic catheterization.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7048 Diagnostic Catheterization Operator Middle Name

Coding Instruction: Indicate the middle name of the operator who is performing the diagnostic catheterization.

Note(s):
It is acceptable to specify the middle initial.

If there is no middle name given, leave field blank.

If there are multiple middle names, enter all of the middle names sequentially.

If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7049 Diagnostic Catheterization Operator NPI

Coding Instruction: Indicate the National Provider Identifier (NPI) of the operator who is performing the diagnostic catheterization.

National Provider Identifier (NPI) numbers, assigned by the Centers for Medicare and Medicaid Services (CMS), are used to uniquely identify professionals for Medicare billing purposes.

Target Value: The value on current procedure

Section: PCI Operator **Parent: Operator Information**

Element: 7051 PCI Operator Last Name

Coding Instruction: Indicate the last name of the operator who is performing the percutaneous coronary intervention.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7052 PCI Operator First Name

Coding Instruction: Indicate the first name of the operator who is performing the percutaneous coronary intervention.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7053 PCI Operator Middle Name

Coding Instruction: Indicate the middle name of the operator who is performing the percutaneous coronary intervention.

Note(s):
It is acceptable to specify the middle initial.

If there is no middle name given, leave field blank.

If there are multiple middle names, enter all of the middle names sequentially.

If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7054 PCI Operator NPI

Coding Instruction: Indicate the National Provider Identifier (NPI) of the operator who is performing the PCI procedure.

National Provider Identifier (NPI) numbers, assigned by the Centers for Medicare and Medicaid Services (CMS), are used to uniquely identify professionals for Medicare billing purposes.

Target Value: The value on current procedure

Section: Generator Operator **Parent: Operator Information**

Element: 7600 Generator Operator Last Name

Coding Instruction: Coding Instruction: Indicate the last name of the operator who is implanting and/or explanting the device.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7605 Generator Operator First Name

Coding Instruction: Coding Instruction: Indicate the first name of the operator who is implanting and/or explanting the device.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7610 Generator Operator Middle Name

Coding Instruction: Indicate the middle name of the operator who is implanting and/or explanting the device.

Note(s):
It is acceptable to specify the middle initial.
If there is no middle name given, leave field blank.
If there are multiple middle names, enter all of the middle names sequentially.
If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7615 Generator Operator NPI

Coding Instruction: Indicate the National Provider Identifier (NPI) of the operator who is implanting and/or explanting the device.

NPIs, assigned by the Centers for Medicare and Medicaid Services (CMS), are used to uniquely identify physicians for Medicare billing purposes.

Target Value: The value on current procedure

Section: Lead Operator **Parent: Operator Information**

Element: 7690 Lead Operator Last Name

Coding Instruction: Indicate the last name of the operator who is performing the lead procedure.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

If more than one physician performs the lead procedure, code the operator of record.

Target Value: The value on current procedure

Element: 7695 Lead Operator First Name

Coding Instruction: Indicate the first name of the operator who is performing the lead procedure.

Note(s):
If the name exceeds 50 characters, enter the first 50 letters only.

If more than one physician performs the lead procedure, code the operator of record.

Target Value: The value on current procedure

Element: 7700 Lead Operator Middle Name

Coding Instruction: Indicate the middle name of the operator who is performing the lead procedure.

Note(s):
It is acceptable to specify the middle initial.

If there is no middle name given, leave field blank.

If there are multiple middle names, enter all of the middle names sequentially.

If the name exceeds 50 characters, enter the first 50 letters only.

Target Value: The value on current procedure

Element: 7705 Lead Operator NPI

Coding Instruction: Indicate the National Provider Identifier (NPI) of the operator who is implanting the device.

NPIs, assigned by the Centers for Medicare and Medicaid Services (CMS), are used to uniquely identify physicians for Medicare billing purposes.

Target Value: The value on current procedure

Section: Fellow Information **Parent: Lab Visit**

Element: 15433 Fellow Last Name

Coding Instruction: Indicate the last name of the Fellow-in-Training operator.

Note(s):
If the name exceeds 50 characters, enter the first 50 characters only.

Target Value: The value on current procedure

Element: 15434 Fellow First Name

Coding Instruction: Indicate the first name of the Fellow-in-Training operator.

Note(s):
If the name exceeds 50 characters, enter the first 50 characters only.

Target Value: The value on current procedure

Element: 15435 Fellow Middle Name

Coding Instruction: Indicate the middle name of the Fellow-in-Training operator.

Note(s):
If the name exceeds 50 characters, enter the first 50 characters only.

Target Value: The value on current procedure

Element: 15436 Fellow NPI

Coding Instruction: Indicate the National Provider Identifier (NPI) of the Fellow-In-Training operator who is performing the procedure.

National Provider Identifier (NPI) numbers, assigned by the Centers for Medicare and Medicaid Services (CMS), are used to uniquely identify physicians for Medicare billing purposes.

Target Value: The value on current procedure

Vendor Instruction: Fellow NPI (15436) must only be entered/selected once.

Element: 15431 Fellowship Program Identification Number

Coding Instruction: Indicate the institution's Accreditation Council for Graduate Medical Education (ACGME) number for the program in which the Fellow is participating.

Target Value: The value on current procedure

Supporting Definition: **Fellowship Program Identification Number**

The institution's Accreditation Council for Graduate Medical Education (ACGME) number for the program in which the Fellow is participating.

ACGME oversees the accreditation of fellowship programs in the US. Each accredited training program is assigned a program ID.

Source: A list of programs by specialty can be found here: ACGME - Accreditation Data System (ADS): https://apps.acgme.org/ads/Public/Reports/Report/1 .

Section: Shared Decision Making **Parent: Lab Visit**

Element: 14732 Shared Decision Making

Coding Instruction: Indicate if shared decision making was performed for the procedure.

Target Value: The value on current procedure

Section: Clinical Trial **Parent: Lab Visit**

Element: 7020 Premarket Clinical Trial

Coding Instruction: Indicate if the ICD or permanent pacemaker procedure is part of a clinical trial, excluding post-market surveillance trials.

Target Value: Any occurrence on current procedure

Section: Procedure Information **Parent: Lab Visit**

Element: 7060 Diagnostic Left Heart Cath

Coding Instruction: Indicate if the patient had a left heart cath procedure, defined as the passage of a catheter into the left ventricle for the purposes of angiography or measurement of ventricular pressures and/or oxygen saturation.

Note(s): Code 'No' if the left ventricle was only assessed post-intervention (PCI).

Target Value: The value between start of procedure and prior to the intervention

Element: 7061 LVEF % (Diagnostic Left Heart Cath)

Coding Instruction: Indicate the best estimate of the current left ventricular ejection fraction.

Note(s):
Enter a percentage in the range of 01 - 99. If a percentage range was reported, report the lowest number of the range (i.e.50-55%, is reported as 50%).

If only a descriptive value is reported (i.e.normal), enter the corresponding percentage value from the list below:
Normal = 60%
Good function = 50%
Mildly reduced = 45%
Fair function = 40%
Moderately reduced = 30%
Poor function = 25%
Severely reduced = 20%

Target Value: The value between start of procedure and prior to the intervention

Element: 13306 Left Ventricular Ejection Fraction Not Assessed

Coding Instruction: Indicate whether the left ventricular ejection fraction was not assessed or not measured.

Target Value: N/A

Element: 7065 Concomitant Procedures Performed

Coding Instruction: Indicate if another procedure was performed in conjunction with a diagnostic coronary angiography and/or PCI procedure.

Target Value: The value on current procedure

Element: 7066 Concomitant Procedures Performed Type

Coding Instruction: Indicate the type of procedure performed in conjunction with a diagnostic coronary angiography and/or PCI procedure.

Note(s):
The procedure(s) collected in your application is controlled by Procedure Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: The value on current procedure

Concomitant Procedures Type - 2.16.840.1.113883.3.3478.6.4.10

Selection	Definition	Source	Code	Code System
Biopsy of heart	A procedure where a small sample of heart muscle is removed for analysis.		197042001	SNOMED CT
Right Heart Cath	A diagnostic catheterization procedure that includes direct insertion of a catheter into the right atrium.		40403005	SNOMED CT
Temporary Pacemaker Placement	Temporary pacemaker placement, also called transvenous cardiac pacing or endocardial pacing, is a life-saving procedure to correct symptomatic bradycardia unhelped by medication and transcutaneous pacing. The placement of the pacing electrode, or lead, is advanced through the vein under fluoroscopy to the desired location in the right ventricle.		281556002	SNOMED CT
LIMA (Native Position) Angiogram	Left internal mammary artery (LIMA) angiogram is performed during a cardiac diagnostic catherization to visualize the blood flow through the artery using a small catheter. The study is undertaken to assess if the LIMA is suitable to use in a coronary artery bypass graft (CABG) procedure.		1000142394	ACC NCDR
Aortogram	An aortogram involves placement of a catheter in the aorta and injection of contrast material while taking x-rays of the aorta.		241230009	SNOMED CT
Renal Angiogram	Angiogram of the renal (kidney) vasculature.		420013002	SNOMED CT
Peripheral Intervention	Peripheral vascular intervention of any anatomical		100001272	ACC NCDR

Section: Procedure Information **Parent: Lab Visit**

	structure or system in the body except the heart to remove plaque and restore the flow of blood through the artery. These interventions are medical specialties that treat peripheral artery diseases without surgically opening the leg or arm. The interventionalist uses a catheter that is inserted into a blood vessel through a small cut, usually in the leg or arm, and threaded to the site of disease. Once in place, it acts as a tunnel, enabling the doctor to efficiently guide the tools to where they are needed.			
Peripheral Angiogram	Angiogram of any anatomical structure or system in the body with exception of the heart.		1000142392	ACC NCDR
Cardioversion	The conversion of one cardiac rhythm or electrical pattern to another, almost always from an abnormal to a normal one, by pharmacologic means using medications or by electrical cardioversion using a defibrillator.	NCImetathesaurus NCIm Version: 201706 Version 2.8 CUI CL449343	250980009	SNOMED CT
Procedure Type Not Listed	The procedure performed is not available for selction within the registry.		10001424810	ACC NCDR

Element: 7320 Arterial Access Site

Coding Instruction: Indicate the location of percutaneous entry for the procedure.

Target Value: The last value on current procedure

Arterial Access Site - 1.3.6.1.4.1.19376.1.4.1.6.5.310

Selection	Definition	Source	Code	Code System
Femoral			7657000	SNOMED CT
Brachial			17137000	SNOMED CT
Radial			45631007	SNOMED CT
Other	Specific artery not available for selection in registry.		100013029	ACC NCDR

Element: 7325 Arterial Cross Over

Coding Instruction: Indicate if the procedure involved a crossover to a different access site.

Note(s):
Code 'Yes' when the final procedure access site is subsequent to where arterial access for the procedure was first attempted.

Target Value: The value on current procedure

Element: 6016 Systolic Blood Pressure

Coding Instruction: Indicate the systolic blood pressure in mmHg.

Note(s):
Code the first systolic blood pressure obtained in the cath lab procedure room.

Target Value: The first value on current procedure

Element: 7332 Closure Method Not Documented

Coding Instruction: Indicate if the method to close the arterial access site was not documented.

Target Value: All values between start of procedure and next procedure or discharge

Section: Closure Methods **Parent: Procedure Information**

Element: 7330 Closure Device Counter

Coding Instruction: The software assigned closure device counter should start at 1 and be incremented by one for each closure device used during or after the cath lab visit.

Note(s):
The closure device counter number should be assigned sequentially in ascending order. Do not skip numbers.

The closure device counter is reset back to 1 for each new cath lab visit.

Target Value: N/A

Element: 7331 Arterial Access Closure Method

Coding Instruction: Indicate the arterial closure methods used in chronological order regardless of whether or not they provided hemostasis. The same closure method may be repeated.

Note(s):
If multiple access sites were utilized during the procedure, only provide those closure methods used for the site identified in Element Ref# 7320 (Arterial Access Site).

The closure method devices that should be collected in your application are controlled by a Closure Method Device Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: All values between start of procedure and next procedure or discharge

Vendor Instruction: When Closure Device Counter (7330) has a value, Arterial Access Closure Method (7331) must have a value

Section: Radiation Exposure and Contrast **Parent: Procedure Information**

Element: 7214 Fluoroscopy Time

Coding Instruction: Indicate the total fluoroscopy time recorded to the nearest 0.1-minute. The time recorded should include the total time for the lab visit.

Target Value: The total between start of current procedure and end of current procedure

Element: 7215 Contrast Volume

Coding Instruction: Indicate the volume of contrast (ionic and non-ionic) used in milliliters (ml). The volume recorded should be the total volume for the lab visit.

Target Value: The total between start of current procedure and end of current procedure

Element: 7210 Cumulative Air Kerma

Coding Instruction: Indicate the total radiation dose (Cumulative Air Kerma, or Reference Air Kerma) recorded to the nearest milligray (mGy) or gray (Gy). The value recorded should include the total dose for the lab visit. Cumulative air kerma is the total air kerma accrued from the beginning of an examination or procedure and includes all contributions from fluoroscopic and radiographic irradiation.

Target Value: The total between start of current procedure and end of current procedure

Supporting Definition: **Cumulative (Reference) Air kerma**

Cumulative air kerma (also known as reference, reference dose, cumulative dose, or cumulative dose at a reference point) is the air kerma accumulated at a specific point in space (the patient entrance reference point) relative to the gantry of the fluoroscopy system.

The quantity, kerma, originated from the acronym, KERMA, for Kinetic Energy Released per unit Mass (of air).

Source: Miller DL, et al. Radiation doses in interventional radiology procedures. (J Vasc Interv Radiol 2003;14:711-727.)

Element: 14278 Dose Area Product

Coding Instruction: Indicate the total fluoroscopy dose to the nearest integer. The value recorded should include the total dose for the lab visit.

Target Value: The total between start of current procedure and end of current procedure

Supporting Definition: **Dose Area Product**

Dose Area Product is the integral of air kerma (the energy extracted from an x-ray beam per unit mass of air in a small irradiated air volume; for diagnostic x-rays, the dose delivered to that volume of air) across the entire x-ray beam emitted from the x-ray tube. It is a surrogate measure of the amount of energy delivered to the patient.

Also known as KAP (Kerma Area Product).

Source: Miller DL, et al. Radiation doses in interventional radiology procedures. (J Vasc Interv Radiol 2003; 14:711-727.)

Section: Cath Lab Visit **Parent: Procedure Information**

Element: 7400 Indications for Cath Lab Visit

Coding Instruction: Indicate the patient symptoms or condition prompting the cath lab visit.

Note(s):
The Cath Lab Indications collected in this field by your application are controlled by Cath Lab Indication Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: The value on current procedure

Vendor Instruction: For Indications for Cath Lab Visit (7400), cannot select the option [New Onset Angina <= 2 months] with option(s): [Worsening Angina]

For Indications for Cath Lab Visit (7400), cannot select the option [Suspected CAD] with option(s): [Stable Known CAD]

Indications for Cath Lab Visit - 2.16.840.1.113883.3.3478.6.7.1

Selection	Definition	Source	Code	Code System
Cardiac arrhythmia	The patient has a cardiac arrhythmia (also known as cardiac dysrhythmia or irregular heartbeat, a group of conditions in which the heartbeat is irregular, too fast, or too slow).		698247007	SNOMED CT
Cardiomyopathy	The patient has cardiomyopathy (disease of the heart muscle). Types of cardiomyopathy include; hypertrophic cardiomyopathy, dilated cardiomyopathy, restrictive cardiomyopathy, arrhythmogenic right ventricular dysplasia and Takotsubo cardiomyopathy.		85898001	SNOMED CT
Evaluation for exercise clearance	The patient presents for clearance to participate in an exercise program or cardiac rehab.		10001424791	ACC NCDR
LV dysfunction	The patient has left ventricular (LV) dysfunction. In left -sided or left ventricular heart failure, the left side of the heart must work harder to pump the same amount of blood. The two types of LV dysfunction are systolic (reduced ejection fraction -HFrEF) and diastolic (preserved ejection fraction - HFpEF) heart failure.		134401001	SNOMED CT
New Onset Angina <= 2 months	The patient has new onset angina (typical or atypical angina), within two months of Cath lab presentation.		233821000	SNOMED CT
Pericardial disease	The patient has pericardial disease (an inflammation of the pericardial sac).		55855009	SNOMED CT
Post cardiac transplant	The patient has received a cardiac transplant.		100014002	ACC NCDR
Pre-operative evaluation	The patient requires cardiac evaluation of the coronary arteries and/or LV function.		1000142360	ACC NCDR
Stable known CAD	The patient is stable (without signs or symptoms of acute coronary syndrome, new onset or worsening angina or hemodynamic instability) and has known coronary artery disease >=50% in at least one vessel.		100014001	ACC NCDR
Suspected CAD	The patient presents for suspected coronary artery disease, there is no prior documentation of CAD >= 50 % in a vessel.		100014003	ACC NCDR
Syncope	Syncope presents with an abrupt, transient, complete loss of consciousness, associated with inability to maintain postural tone, with rapid and spontaneous recovery. It's also called fainting or "passing out".		271594007	SNOMED CT
Valvular disease	The patient has disease of at least one heart valve.		368009	SNOMED CT
Worsening angina	The patient has a history of angina that has increased in severity or frequency within the last 2 months.		10001424790	ACC NCDR
Other	Not otherwise specified.		100000351	ACC NCDR

Element: 7405 Chest Pain Symptom Assessment

Coding Instruction: Indicate the chest pain symptom assessment as diagnosed by the physician or described by the patient.

Target Value: The value on current procedure

Vendor Instruction: When Chest Pain Symptom Assessment (7405) is [Non-anginal Chest Pain] then Indications for Cath Lab Visit (7400) cannot be in [New Onset Angina <= 2 months, Worsening Angina]]

When Chest Pain Symptom Assessment (7405) is [Asymptomatic] then Indications for Cath Lab Visit (7400) cannot be in [New Onset Angina <= 2 months, Worsening Angina]

Chest Pain Symptom Type - 1.3.6.1.4.1.19376.1.4.1.6.5.771

Selection	Definition	Source	Code	Code System
Typical angina	Symptoms meet all three of the characteristics of angina (also known as definite): 1. Substernal chest discomfort with a characteristic quality and duration		429559004	SNOMED CT

Section: Cath Lab Visit	Parent: Procedure Information		
	that is 2. provoked by exertion or emotional stress and 3. relieved by rest or nitroglycerin.		
Atypical angina	Symptoms meet two of the three characteristics of typical angina (also known as probable).	371807002	SNOMED CT
Non-anginal chest pain	The patient meets one, or none of the typical characteristics of angina.	100001275	ACC NCDR
Asymptomatic	No typical or atypical symptoms or non-anginal chest pain.	100000932	ACC NCDR

Section: Valvular Disease Stenosis — Parent: Cath Lab Visit

Element: 7450 Valvular Disease Stenosis Type

Coding Instruction: Indicate the cardiac valve(s) with stenosis as diagnosed by the physician.

Target Value: The last value between 6 months prior to current procedure and current procedure

Vendor Instruction: A Valvular Disease Stenosis Type (7450) must not be duplicated in a procedure

Valvular Disease Stenosis Type

Selection	Definition	Source	Code	Code System
Aortic stenosis			60573004	SNOMED CT
Mitral stenosis			79619009	SNOMED CT
Pulmonic stenosis			56786000	SNOMED CT
Tricuspid stenosis			49915006	SNOMED CT

Element: 7451 Valvular Disease Stenosis Severity

Coding Instruction: Indicate the cardiac valve stenosis severity.

Note(s): When a range is provided, code the highest value.

Target Value: The last value between 6 months prior to current procedure and current procedure

Stenosis Severity - 1.3.6.1.4.1.19376.1.4.1.6.5.724

Selection	Definition	Source	Code	Code System
Mild			112000000377	ACC NCDR
Moderate			112000000378	ACC NCDR
Severe			112000000379	ACC NCDR

Section: Valvular Disease Regurgitation — Parent: Cath Lab Visit

Element: 7455 Valvular Disease Regurgitation Type

Coding Instruction: Indicate the cardiac valve(s) with regurgitation as diagnosed by the physician.

Target Value: The last value between 6 months prior to current procedure and current procedure

Valvular Disease Regurgitation Type

Selection	Definition	Source	Code	Code System
Aortic regurgitation	A condition that occurs when the heart's aortic valve doesn't close tightly, leading to the backward flow of blood from the aorta into the left ventricle. Also called aortic insufficiency.		60234000	SNOMED CT
Mitral regurgitation	A condition that occurs when the heart's mitral valve doesn't close tightly, causing blood to leak backward, through the mitral valve, each time the left ventricle contracts. Also called mitral valve regurgitation, mitral insufficiency or mitral incompetence.		48724000	SNOMED CT
Pulmonic regurgitation	A condition that occurs when an incompetent pulmonary valve allows blood to flow backward from the pulmonary artery into the right ventricle during diastole. Also called pulmonic regurgitation, pulmonary insufficiency or pulmonic incompetence.		91434003	SNOMED CT
Tricuspid regurgitation	A condition that occurs when the tricuspid valve fails to close properly during systole, allowing blood to flow backward into the right atria. Also called tricuspid insufficiency.		111287006	SNOMED CT

Element: 7456 Valvular Disease Regurgitation Severity

Coding Instruction: Indicate the cardiac valve regurgitation severity.

Note(s): When a range is provided, code the highest value

Target Value: The last value between 6 months prior to current procedure and current procedure

Regurgitation Severity - 1.3.6.1.4.1.19376.1.4.1.6.5.728

Selection	Definition	Source	Code	Code System
Mild (1+)			112000000380	ACC NCDR
Moderate (2+)			112000000381	ACC NCDR
Moderately severe (3+)			1000142345	ACC NCDR
Severe (4+)			112000000382	ACC NCDR

Section: Pre-Operative Evaluation **Parent: Cath Lab Visit**

Element: 7465 Evaluation for Surgery Type

Coding Instruction: Indicate the type of surgery for which the diagnostic coronary angiography is being performed.

Target Value: The value on current procedure

Pre-Operative Evaluation

Selection	Definition	Source	Code	Code System
Cardiac surgery	Any surgery involving the coronary arteries, valves, or a structural repair of the heart.		64915003	SNOMED CT
Non-cardiac surgery	Any surgery involving the aortic arch or other body system.		100014022	ACC NCDR

Element: 7466 Functional Capacity

Coding Instruction: Indicate the functional capacity of the patient as documented by the physician in the medical record.

Note(s):
There should be explicit documentation as part of the pre-op evaluation indicating functional capacity to determine whether the patient should proceed to planned surgery.

Metabolic equivalent of task (MET) is a metabolic unit used to quantify the estimated energy requirements of various activities.

Target Value: The last value between 6 months prior to procedure and the start of the current procedure

Supporting Definition: **Functional Capacity**

Functional capacity (measured in METS) measures the ability (or limitation) of a patient to perform various activities.

Source: Fleisher LA, Beckman JA, Brown KA, et al. 2009 ACCF/AHA Focused Update on Perioperative Beta Blockade Incorporated into the ACC/AHA 2007 Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery. J Am Coll Cardiol 2009;54:e13-118.

Functional Capacity

Selection	Definition	Source	Code	Code System
< 4 METS	1 MET is the equivalent of energy required at rest.		100014023	ACC NCDR
>= 4 METS without Symptoms	>= 4 METS without symptoms of chest pain or anginal equivalent. 4 METS is the equivalent of energy required to walk slowly for two blocks and/or perform light work around the house.		100014025	ACC NCDR
>= 4 METS with Symptoms	>= 4 METS with symptoms of chest pain or anginal equivalent. 4 METS is the equivalent of energy required to walk slowly for two blocks and/or perform light work around the house.		100014024	ACC NCDR

Element: 7467 Functional Capacity Unknown

Coding Instruction: Indicate if the functional capacity of the patient is unknown.

Target Value: The last value between 6 months prior to procedure and the start of the current procedure

Element: 7468 Surgical Risk

Coding Instruction: Indicate the surgical risk category as documented by the physician in the medical record.

Note(s):
There should be explicit documentation by the physician indicating surgical risk to support the risk profile documented. When surgical risk is not documented, select low risk.

Target Value: The last value between 6 months prior to procedure and the start of the current procedure

Supporting Definition: **Surgical Risk**

Surgical risk is assessed based on the patient's history of cardiac and co-morbid diseases, functional capacity, as well as the urgency and magnitude of the surgical procedure. Evaluation of surgical risk is determined by the physician, and outlined according to the ACC/AHA Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery.

Source: Fleisher LA, Beckman JA, Brown KA, et al. 2009 ACCF/AHA Focused Update on Perioperative Beta Blockade Incorporated into the ACC/AHA 2007 Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery. J Am Coll Cardiol 2009;54:e13-118

Surgical Risk

Selection	Definition	Source	Code	Code System
Low			112000000375	ACC NCDR
Intermediate			112000000376	ACC NCDR

Section: Pre-Operative Evaluation		Parent: Cath Lab Visit	
High risk: Vascular	High risk vascular surgery includes aortic and other major vascular surgery, and peripheral vascular surgery. This does not include non-surgical vascular procedures that are interventions.	100014029	ACC NCDR
High risk: Non-vascular		100014030	ACC NCDR

Element: 7469 Solid Organ Transplant Surgery

Coding Instruction: Indicate if the pending surgery involves a solid organ transplant.

Target Value: The value on current procedure

Element: 7470 Solid Organ Transplant Donor

Coding Instruction: Indicate if the patient is the organ donor.

Target Value: The value on current procedure

Element: 7471 Solid Organ Transplant Type

Coding Instruction: Indicate the type of organ transplant surgery performed.

Target Value: The value on current procedure

Transplanted Organ Type

Selection	Definition	Source	Code	Code System
Heart			32413006	SNOMED CT
Kidney			70536003	SNOMED CT
Liver			18027006	SNOMED CT
Lung			88039007	SNOMED CT
Pancreas			100014027	ACC NCDR
Other organ			1000142347	ACC NCDR

Section: Coronary Anatomy **Parent: Procedure Information**

Element: 7500 Coronary Circulation Dominance

Coding Instruction: Indicate the dominance of the coronary anatomy (whether the posterior descending artery comes from the right or left vessel system).

Target Value: Any occurrence between 30 days prior to the procedure and the procedure

Dominance

Selection	Definition	Source	Code	Code System
Left	The posterior descending artery (PDA) and posterolateral artery (PLA) arises from the left circumflex artery.		253729004	SNOMED CT
Right	The posterior descending artery (PDA) and posterolateral artery (PLA) arises from the right coronary artery.		253728007	SNOMED CT
Co-dominant	The right coronary artery supplies the posterior descending artery (PDA) and the circumflex supplies the posterolateral artery (PLA). Thus, there is approximately equal contribution to the inferior surface of the left ventricle from both the left circumflex and right coronary arteries.		253730009	SNOMED CT

Element: 7505 Native Vessel with Stenosis >= 50%

Coding Instruction: Indicate if any native vessel had a lesion >= 50%.

Note(s):
Identify the disease found in vessels >=2mm.

Identify disease found in vessels <2mm when PCI is intended for the lesion and/or the patients anatomy is <2mm.

It is acceptable to use prior cath lab visit information, as long as there have been no changes in coronary anatomy. This includes stenosis determined via cardiac catheterization at another facility. This does not include collaterals.

Stenosis represents the percentage diameter reduction, ranging from 0 to 100, associated with the identified vessels. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percent stenosis noted.

Target Value: The last value between 6 months prior to current procedure and current procedure

Element: 7525 Graft Vessel with Stenosis >= 50%

Coding Instruction: Indicate if any graft vessel had a lesion >= 50%.

Note(s):
Identify the disease found in vessels >=2mm.

Identify disease found in vessels <2mm when PCI is intended for the lesion and/or the patients anatomy is <2m.

It is acceptable to use prior cath lab visit information, as long as there have been no changes in coronary anatomy. This includes stenosis determined via cardiac catheterization at another facility. This does not include collaterals.

Stenosis represents the percentage diameter reduction, ranging from 0 to 100, associated with the identified vessels. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percent stenosis noted.

Target Value: The last value between 6 months prior to current procedure and current procedure

Section: Native Vessel **Parent: Coronary Anatomy**

Element: 7507 Native Lesion Segment Number

Coding Instruction: Indicate the lesion location using the coronary artery segment diagram of the native lesion.

Target Value: The last value between 6 months prior to current procedure and current procedure

Vendor Instruction: A Native Lesion Segment Number (7507) must not be duplicated in a procedure

Coronary Vessels - 1.3.6.1.4.1.19376.1.4.1.6.5.939

Selection	Definition	Source	Code	Code System
1 - pRCA	Proximal right coronary artery conduit segment - pRCA		91083009	SNOMED CT
2 - mRCA	Mid-right coronary artery conduit segment - mRCA		450960006	SNOMED CT
3 - dRCA	Distal right coronary artery conduit segment - dRCA		41879009	SNOMED CT
4 - rPDA	Right posterior descending artery segment - rPDA		53655008	SNOMED CT
5 - rPAV	Right posterior atrioventricular segment - rPAV		12800002	SNOMED CT
6 - 1st RPL	First right posterolateral segment - 1st RPL		91761002	SNOMED CT
7 - 2nd RPL	Second right posterolateral segment - 2nd RPL		91762009	SNOMED CT
8 - 3rd RPL	Third right posterolateral segment - 3rd RPL		91763004	SNOMED CT
9 - pDSP	Posterior descending septal perforators segment - pDSP		194142006	SNOMED CT
10 - aMarg	Acute marginal segment(s) - aMarg		244258000	SNOMED CT
11a - Ostial LM	Ostial Left Main Segment - Ostial LM		76862008	SNOMED CT
11b- Mid-LM	Mid-Left Main Segment - Mid-LM		1000142402	ACC NCDR
11c - Distal LM	Distal Left Main Segment - Distal LM		1000142403	ACC NCDR
12 - pLAD	Proximal LAD artery segment - pLAD		68787002	SNOMED CT
13 - mLAD	Mid-LAD artery segment - mLAD		91748002	SNOMED CT
14 - dLAD	Distal LAD artery segment - dLAD		36672000	SNOMED CT
15 - 1st Diag	First diagonal branch segment - 1st Diag		91750005	SNOMED CT
15a - Lat 1st Diag	Lateral first diagonal branch segment - Lat 1st Diag		1000142404	ACC NCDR
16 - 2nd Diag	Second diagonal branch segment - 2nd Diag		91751009	SNOMED CT
16a - Lat 2nd Diag	Lateral second diagonal branch segment		1000142405	ACC NCDR
17 - LAD SP	LAD septal perforator segments - LAD SP		244251006	SNOMED CT
18 - pCIRC	Proximal circumflex artery segment - pCIRC		52433000	SNOMED CT
19 - mCIRC	Mid-circumflex artery segment - mCIRC		91753007	SNOMED CT
19a - dCIRC	Distal circumflex artery segment - dCIRC		6511003	SNOMED CT
20 - 1st OM	First obtuse marginal branch segment - 1st OM		91754001	SNOMED CT
20a - Lat 1st OM	Lateral first obtuse marginal branch segment - Lat 1st OM		1000142406	ACC NCDR
21 - 2nd OM	Second obtuse marginal branch segment - 2nd OM		91755000	SNOMED CT
21a - Lat 2nd OM	Lateral second obtuse marginal branch segment - Lat 2nd OM		1000142407	ACC NCDR
22 - 3rd OM	Third obtuse marginal branch segment - 3rd OM		91756004	SNOMED CT
22a - Lat 3rd OM	Lateral third obtuse marginal branch segment - Lat 3rd OM		1000142408	ACC NCDR
23 - CIRC AV	Circumflex artery AV groove continuation segment - CIRC AV		75902001	SNOMED CT
24 - 1st LPL	First left posterolateral branch segment - 1st LPL		91757008	SNOMED CT
25 - 2nd LPL	Second left posterolateral branch segment - 2nd LPL		91758003	SNOMED CT
26 - 3rd LPL	Third posterolateral descending artery segment - 3rd LPL		91759006	SNOMED CT
27 - LPDA	Left posterolateral descending artery segment - LPDA		56322004	SNOMED CT
28 - Ramus	Ramus intermedius segment - Ramus		244252004	SNOMED CT
28a - Lat Ramus	Lateral ramus intermedius segment - Lat Ramus		1000142409	ACC NCDR
29 - 3rd Diag	Third diagonal branch segment - 3rd Diag		91752002	SNOMED CT
29a - Lat 3rd Diag	Lateral third diagonal branch segment - Lat 3rd Diag		1000142410	ACC NCDR

Element: 7508 Native Coronary Vessel Stenosis

Coding Instruction: Indicate the best estimate of the most severe percent stenosis in the segment of the native coronary vessel identified.

Note(s):

It is acceptable to use prior cath lab visit information, as long as there have been no changes in coronary anatomy. This includes stenosis determined via cardiac catheterization at another facility. This does not include collaterals.

Stenosis represents the percentage diameter reduction, ranging from 0 to 100, associated with the identified vessels. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percent stenosis noted

Target Value: The last value between 6 months prior to current procedure and current procedure

Section: Native Vessel **Parent: Coronary Anatomy**

Vendor Instruction: When Native Coronary Vessel Stenosis (7508) is [< 50] then Native Vessel with Stenosis >= 50% (7505) cannot be [Yes]

Element: 7511 Native Vessel Adjunctive Measurements Obtained

Coding Instruction: Indicate if an invasive diagnostic measurement was obtained of the native vessel segment.

Note(s): 'Yes' may also be coded when:
• A CT-FFR result (obtained prior to this cath lab visit) is the rationale for the current procedure
• An adjunctive measurement (FFR, iFR, IVUS, OCT) was obtained in this episode of care during the 'diagnostic only' procedure and is the rationale for the PCI

Target Value: Any occurrence between start of procedure and prior to intervention

Element: 7512 Native Vessel Fractional Flow Reserve Ratio

Coding Instruction: Indicate the fractional flow reserve of the native vessel segment.

Target Value: The lowest value between start of procedure and prior to intervention

Element: 7513 Native Vessel Instantaneous Wave-Free Ratio

Coding Instruction: Indicate the instantaneous wave-free ratio (iFR ratio) of the native vessel segment.

Note(s): A CT-FFR result or a resting non-hyperemic flow reserve ratio may also be coded in this field.
• Code '0' to indicate ischemia was identified (an abnormal result)

Ischemia is defined as any ONE of the following:
- CT-FFR <=0.80
- Abbott RFR <=0.89
- ACIST Medical RXi System & Navuus Catheter Pd/Pa <=0.91
- Boston Science DFR <=0.89
- Boston Science dPR <=0.89
- Boston Science Pd/Pa <=0.89
- CathWorks FFRangio™ <=0.80
- Medis Imaging QFR <0.78
- OpSense dPR <=0.89
- Physician documentation that the study results demonstrate ischemia

• Code '1' to indicate ischemia was not identified.
• Continue to enter the actual iFR value documented if iFR was used.

Target Value: The lowest value between start of procedure and prior to intervention

Element: 7514 Native Vessel Intravascular Ultrasonography

Coding Instruction: Indicate the minimal luminal area (MLA) measured via IVUS of the native vessel segment.

Target Value: The lowest value between start of procedure and prior to intervention

Element: 7515 Native Vessel Optical Coherence Tomography

Coding Instruction: Indicate the minimal luminal area (MLA) measured via OCT of the native vessel segment.

Target Value: The lowest value between start of procedure and prior to intervention

Section: Graft Vessel **Parent: Coronary Anatomy**

Element: 7527 Graft Lesion Segment Number

Coding Instruction: Indicate the lesion location using the coronary artery segment diagram of the graft lesion.

Note(s): Indicate the segment location of the first anastomosis distal to the lesion (and if it's above the Y graft, indicate the segment of the most important distal vessel).

Target Value: The last value between 6 months prior to current procedure and current procedure

Vendor Instruction: A Graft Lesion Segment Number (7527) must not be duplicated in a procedure

Coronary Vessels - 1.3.6.1.4.1.19376.1.4.1.6.5.939

Selection	Definition	Source	Code	Code System
1 - pRCA	Proximal right coronary artery conduit segment - pRCA		91083009	SNOMED CT
2 - mRCA	Mid-right coronary artery conduit segment - mRCA		450960006	SNOMED CT
3 - dRCA	Distal right coronary artery conduit segment - dRCA		41879009	SNOMED CT
4 - rPDA	Right posterior descending artery segment - rPDA		53655008	SNOMED CT
5 - rPAV	Right posterior atrioventricular segment - rPAV		12800002	SNOMED CT
6 - 1st RPL	First right posterolateral segment - 1st RPL		91761002	SNOMED CT
7 - 2nd RPL	Second right posterolateral segment - 2nd RPL		91762009	SNOMED CT
8 - 3rd RPL	Third right posterolateral segment - 3rd RPL		91763004	SNOMED CT
9 - pDSP	Posterior descending septal perforators segment - pDSP		194142006	SNOMED CT
10 - aMarg	Acute marginal segment(s) - aMarg		244258000	SNOMED CT
11a - Ostial LM	Ostial Left Main Segment - Ostial LM		76862008	SNOMED CT
11b- Mid-LM	Mid-Left Main Segment - Mid-LM		1000142402	ACC NCDR
11c - Distal LM	Distal Left Main Segment - Distal LM		1000142403	ACC NCDR
12 - pLAD	Proximal LAD artery segment - pLAD		68787002	SNOMED CT
13 - mLAD	Mid-LAD artery segment - mLAD		91748002	SNOMED CT
14 - dLAD	Distal LAD artery segment - dLAD		36672000	SNOMED CT
15 - 1st Diag	First diagonal branch segment - 1st Diag		91750005	SNOMED CT
15a - Lat 1st Diag	Lateral first diagonal branch segment - Lat 1st Diag		1000142404	ACC NCDR
16 - 2nd Diag	Second diagonal branch segment - 2nd Diag		91751009	SNOMED CT
16a - Lat 2nd Diag	Lateral second diagonal branch segment		1000142405	ACC NCDR
17 - LAD SP	LAD septal perforator segments - LAD SP		244251006	SNOMED CT
18 - pCIRC	Proximal circumflex artery segment - pCIRC		52433000	SNOMED CT
19 - mCIRC	Mid-circumflex artery segment - mCIRC		91753007	SNOMED CT
19a - dCIRC	Distal circumflex artery segment - dCIRC		6511003	SNOMED CT
20 - 1st OM	First obtuse marginal branch segment - 1st OM		91754001	SNOMED CT
20a - Lat 1st OM	Lateral first obtuse marginal branch segment - Lat 1st OM		1000142406	ACC NCDR
21 - 2nd OM	Second obtuse marginal branch segment - 2nd OM		91755000	SNOMED CT
21a - Lat 2nd OM	Lateral second obtuse marginal branch segment - Lat 2nd OM		1000142407	ACC NCDR
22 - 3rd OM	Third obtuse marginal branch segment - 3rd OM		91756004	SNOMED CT
22a - Lat 3rd OM	Lateral third obtuse marginal branch segment - Lat 3rd OM		1000142408	ACC NCDR
23 - CIRC AV	Circumflex artery AV groove continuation segment - CIRC AV		75902001	SNOMED CT
24 - 1st LPL	First left posterolateral branch segment - 1st LPL		91757008	SNOMED CT
25 - 2nd LPL	Second left posterolateral branch segment - 2nd LPL		91758003	SNOMED CT
26 - 3rd LPL	Third posterolateral descending artery segment - 3rd LPL		91759006	SNOMED CT
27 - LPDA	Left posterolateral descending artery segment - LPDA		56322004	SNOMED CT
28 - Ramus	Ramus intermedius segment - Ramus		244252004	SNOMED CT
28a - Lat Ramus	Lateral ramus intermedius segment - Lat Ramus		1000142409	ACC NCDR
29 - 3rd Diag	Third diagonal branch segment - 3rd Diag		91752002	SNOMED CT
29a - Lat 3rd Diag	Lateral third diagonal branch segment - Lat 3rd Diag		1000142410	ACC NCDR

Element: 7528 Graft Coronary Vessel Stenosis

Coding Instruction: Indicate the best estimate of the most severe percent stenosis in the segment of the graft vessel identified.

Note(s):
It is acceptable to use prior cath lab visit information, as long as there have been no changes in coronary anatomy. This includes stenosis determined via cardiac catheterization at another facility. This does not include collaterals.

Stenosis represents the percentage diameter reduction, ranging from 0 to 100, associated with the identified vessels. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percent stenosis noted.

Section: Graft Vessel **Parent: Coronary Anatomy**

Target Value: The last value between 6 months prior to current procedure and current procedure

Vendor Instruction: When Graft Coronary Vessel Stenosis (7528) is [< 50] then Graft Vessel with Stenosis >= 50% (7525) cannot be [Yes]

Element: 7529 CABG Graft Vessel

Coding Instruction: Indicate the vessel that was used for the coronary artery bypass graft.

Target Value: The value on current procedure

CABG Graft Vessel

Selection	Definition	Source	Code	Code System
LIMA	Left Internal Mammary Artery		261402001	SNOMED CT
RIMA	Right Internal Mammary Artery		261403006	SNOMED CT
SVG	Saphenous Vein Graft		362072009	SNOMED CT
Radial	Radial Artery		181332001	SNOMED CT

Element: 7530 CABG Graft Vessel Unknown

Coding Instruction: Indicate if the vessel that was used for the coronary artery bypass graft was unknown.

Target Value: The value on current procedure

Element: 7531 Graft Vessel Adjunctive Measurements Obtained

Coding Instruction: Indicate if an invasive diagnostic measurement was obtained of the graft vessel intra-procedure.

Note(s): 'Yes' may also be coded when:
• A CT-FFR result (obtained prior to this Cath lab visit) is the rationale for the current procedure
• An adjunctive measurement (FFR, iFR, IVUS, OCT) was obtained in this episode of care during the 'diagnostic only' procedure and is the rationale for the PCI

Target Value: Any occurrence between start of procedure and prior to intervention

Element: 7532 Graft Vessel Fractional Flow Reserve Ratio

Coding Instruction: Indicate the fractional flow reserve of the graft vessel segment.

Target Value: The lowest value between start of procedure and prior to intervention

Element: 7533 Graft Vessel Instantaneous Wave-Free Ratio

Coding Instruction: Indicate the instantaneous wave-free ratio (iFR ratio) of the graft vessel segment.

Note(s): A CT-FFR result or a resting non-hyperemic flow reserve ratio may also be coded in this field.
• Code '0' to indicate ischemia was identified (an abnormal result).

Ischemia is defined as any ONE of the following:
- CT-FFR <=0.80
- Abbott RFR <=0.89
- ACIST Medical RXi System & Navuus Catheter Pd/Pa <=0.91
- Boston Science DFR <=0.89
- Boston Science dPR <=0.89
- Boston Science Pd/Pa <=0.89
- CathWorks FFRangio™ <=0.80
- Medis Imaging QFR <0.78
- OpSense dPR <=0.89
- Physician documentation that the study results demonstrate ischemia

• Code '1' to indicate ischemia was not identified.
• Continue to enter the actual iFR value documented if iFR was used.

Target Value: The lowest value between start of procedure and prior to intervention

Element: 7534 Graft Vessel Intravascular Ultrasonography

Coding Instruction: Indicate the minimal luminal area (MLA) measured via IVUS of the graft vessel segment.

Target Value: The lowest value between start of procedure and prior to intervention

Element: 7535 Graft Vessel Optical Coherence Tomography

Coding Instruction: Indicate the minimal luminal area (MLA) measured via OCT of the graft vessel segment.

Target Value: The lowest value between start of procedure and prior to intervention

Section: PCI Procedure **Parent: Procedure Information**

Element: 7800 PCI Status

Coding Instruction: Indicate the status of the PCI. The status is determined at the time the operator decides to perform a PCI.

Target Value: The highest value at start of current procedure

PCI Status

Selection	Definition	Source	Code	Code System
Elective	The procedure can be performed on an outpatient basis or during a subsequent hospitalization without significant risk of infarction or death. For stable inpatients, the procedure is being performed during this hospitalization for convenience and ease of scheduling and NOT because the patient's clinical situation demands the procedure prior to discharge. If the diagnostic catheterization was elective and there were no complications, the PCI would also be elective.		100012987	ACC NCDR
Urgent	The procedure should be performed on an inpatient basis and prior to discharge because of significant concerns that there is risk of ischemia, infarction and/or death. Patients who are outpatients or in the emergency department at the time that the cardiac catheterization is requested would warrant an admission based on their clinical presentation.		100012988	ACC NCDR

Element: 7815 Decision for PCI with Surgical Consult

Coding Instruction: Indicate if a cardiac surgical consult and recommendation were obtained prior to engaging in this PCI procedure.

Note(s): Code 'No' if a CV consult/recommendation was obtained after the start of PCI (defined as guidewire insertion).

Target Value: The value on current procedure

Element: 7816 Cardiovascular Treatment Decision

Coding Instruction: Indicate the cardiovascular surgery recommendation and/or patient/family decision.

Target Value: The value on current procedure

Cardiovascular Treatment Decision

Selection	Definition	Source	Code	Code System
Surgery not recommended			1000142368	ACC NCDR
Surgery recommended, patient/family declined			1000142369	ACC NCDR
Surgery recommended, patient/family accepted			1000142370	ACC NCDR

Element: 7820 PCI for MultiVessel Disease

Coding Instruction: Indicate if the PCI procedure was performed in the presence of multi-vessel disease.

Note(s):
Code 'Yes' if this is the initial (first) PCI procedure for the cath lab indication and the patient has obstructive disease >=70% stenosis in >=2 coronary vessels and/or disease 50%-70% stenosis in >=2 coronary vessels with non-invasive or FFR/IFR evidence of ischemia in that territory and/or left main disease >=50% stenosis.
(A coronary vessel is defined as: LAD and any of its branches, LCX and any of its branches, RCA and any of its branches, a true RAMUS branch >2 mm)

Code 'Yes' if this is a subsequent, planned staged PCI procedure of a vessel not treated during the initial PCI procedure. The first PCI could have been during a prior admission, or during this admission but must occur within 90 days of the initial PCI procedure.

Target Value: The value on current procedure

Element: 7821 Multi-vessel Procedure Type

Coding Instruction: Indicate the type of multi-vessel PCI procedure that was performed during this lab visit.

Target Value: The value on current procedure

Vendor Instruction: When Multi-vessel Procedure Type (7821) is [Staged PCI] then Percutaneous Coronary Intervention Indication (7825) cannot be in [New Onset Angina <= 2 months]

When Multi-vessel Procedure Type (7821) is [Staged PCI] then Indications for Cath Lab Visit (7400) cannot be in [New Onset Angina <= 2 months, Worsening Angina, Suspected CAD]

PCI Revascularization Treatment

Selection	Definition	Source	Code	Code System

Section: PCI Procedure **Parent: Procedure Information**

Initial PCI	This PCI procedure is the initial (first) for the cath lab indication	10001424793	ACC NCDR
Staged PCI	This PCI procedure is the subsequent, planned staged PCI procedure for a vessel NOT treated during the initial PCI procedure. The first PCI could have been during a prior admission, or during this admission but must occur within 90 days of the initial PCI procedure.	10001424794	ACC NCDR

Element: 7825 Percutaneous Coronary Intervention Indication

Coding Instruction: Indicate the reason the percutaneous coronary intervention PCI is being performed.

Note(s):
The PCI Indications collected in this field by your application are controlled by PCI Indication Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: The highest value at start of current procedure

Vendor Instruction: When Percutaneous Coronary Intervention Indication (7825) is [Stable angina] then Indications for Cath Lab Visit (7400) cannot be in [New Onset Angina <= 2 months]

When Percutaneous Coronary Intervention Indication (7825) is [CAD (without ischemic Sx)] then Indications for Cath Lab Visit (7400) cannot be in [Worsening Angina, New Onset Angina <= 2 months]

PCI Indication - 2.16.840.1.113883.3.3478.6.7.2

Selection	Definition	Source	Code	Code System
New Onset Angina <= 2 months	PCI is performed for the patient's new onset angina (typical or atypical angina) that developed within the previous two months.		233821000	SNOMED CT
Stable angina	Angina without a change in frequency or pattern for the six weeks prior to this cath lab presentation. Angina is controlled by rest and/or oral or transcutaneous medications.		233819005	SNOMED CT
CAD (without ischemic Sx)	PCI is performed for known coronary artery disease there are no symptoms of ischemia (typical angina and/or ST segment elevation).		100012992	ACC NCDR
Other	PCI Indication not listed.		10001424795	ACC NCDR

Element: 7831 Syntax Score

Coding Instruction: Indicate the Syntax Score for the PCI procedure.

Target Value: The highest value at start of current procedure

Syntax Score Tiers - 1.3.6.1.4.1.19376.1.4.1.6.5.504

Selection	Definition	Source	Code	Code System
Low	Syntax score <=22		10001424799	ACC NCDR
Intermediate	Syntax score >22 and <=27		10001424798	ACC NCDR
High	Syntax score >27		10001424797	ACC NCDR

Element: 7832 Syntax Score Unknown

Coding Instruction: Indicate if the Syntax Score for the PCI procedure is unknown.

Target Value: The highest value at start of current procedure

Section: PCI Procedure Medications — Parent: PCI Procedure

Element: 7990 PCI Procedure Medication Code

Coding Instruction: Indicate the assigned identification number associated with the medications the patient received.

Note(s):
The medication(s) collected in this field are controlled by the Medication Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application. Each medication in the Medication Master file is assigned to a value set. The value set is used to separate procedural medications from medications prescribed at discharge. The separation of these medications is depicted on the data collection form.

Target Value: The value on current procedure

Vendor Instruction: PCI Procedure Medication Code (7990) must not be duplicated in a procedure

Procedure Medication - 1.3.6.1.4.1.19376.1.4.1.6.5.214

Selection	Definition	Source	Code	Code System
Apixaban			1364430	RxNorm
Argatroban			15202	RxNorm
Bivalirudin			400610005	SNOMED CT
Dabigatran			1546356	RxNorm
Edoxaban			1599538	RxNorm
Fondaparinux			321208	RxNorm
GP IIb/IIIa Inhibitors (Any)			1000142427	ACC NCDR
Low Molecular Weight Heparin			373294004	SNOMED CT
P2Y12 Inhibitors (Any)			112000001003	ACC NCDR
Rivaroxaban			1114195	RxNorm
Unfractionated Heparin			96382006	SNOMED CT
Vorapaxar			1537034	RxNorm
Warfarin			11289	RxNorm

Element: 7995 Procedure Medications Administered

Coding Instruction: Indicate which medications were administered.

Target Value: Any occurrence between 24 hours prior to current procedure and end of current procedure

Vendor Instruction: When PCI Procedure Medication Code (7990) is answered then Procedure Medications Administered (7995) cannot be [Null]

Procedure Medications Administered - 1.3.6.1.4.1.19376.1.4.1.6.5.415

Selection	Definition	Source	Code	Code System
No			100014173	ACC NCDR
Yes			432102000	SNOMED CT

Section: Lesions and Devices **Parent: PCI Procedure**

Element: 8000 Lesion Counter

Coding Instruction: The lesion counter is used to distinguish between multiple lesions on which a PCI is attempted or performed.

When specifying intracoronary devices, list all treated lesions in which the device was utilized.

Note(s):
The software-assigned lesion counter should start at one and be incremented by one for each lesion. The lesion counter is reset back to one for each new PCI lab visit.

At least one lesion must be specified for each PCI procedure.

Target Value: N/A

Element: 8001 Native Lesion Segment Number

Coding Instruction: Indicate the segment(s) that the current lesion spans (a lesion can span one or more segments).

Target Value: N/A

Vendor Instruction: A Native Lesion Segment Number (8001) can only be repeated across Lesion Counter (8000) when Lesion In Graft (8015) is [Yes]

Coronary Vessels - 1.3.6.1.4.1.19376.1.4.1.6.5.939

Selection	Definition	Source	Code	Code System
1 - pRCA	Proximal right coronary artery conduit segment - pRCA		91083009	SNOMED CT
2 - mRCA	Mid-right coronary artery conduit segment - mRCA		450960006	SNOMED CT
3 - dRCA	Distal right coronary artery conduit segment - dRCA		41879009	SNOMED CT
4 - rPDA	Right posterior descending artery segment - rPDA		53655008	SNOMED CT
5 - rPAV	Right posterior atrioventricular segment - rPAV		12800002	SNOMED CT
6 - 1st RPL	First right posterolateral segment - 1st RPL		91761002	SNOMED CT
7 - 2nd RPL	Second right posterolateral segment - 2nd RPL		91762009	SNOMED CT
8 - 3rd RPL	Third right posterolateral segment - 3rd RPL		91763004	SNOMED CT
9 - pDSP	Posterior descending septal perforators segment - pDSP		194142006	SNOMED CT
10 - aMarg	Acute marginal segment(s) - aMarg		244258000	SNOMED CT
11a - Ostial LM	Ostial Left Main Segment - Ostial LM		76862008	SNOMED CT
11b- Mid-LM	Mid-Left Main Segment - Mid-LM		1000142402	ACC NCDR
11c - Distal LM	Distal Left Main Segment - Distal LM		1000142403	ACC NCDR
12 - pLAD	Proximal LAD artery segment - pLAD		68787002	SNOMED CT
13 - mLAD	Mid-LAD artery segment - mLAD		91748002	SNOMED CT
14 - dLAD	Distal LAD artery segment - dLAD		36672000	SNOMED CT
15 - 1st Diag	First diagonal branch segment - 1st Diag		91750005	SNOMED CT
15a - Lat 1st Diag	Lateral first diagonal branch segment - Lat 1st Diag		1000142404	ACC NCDR
16 - 2nd Diag	Second diagonal branch segment - 2nd Diag		91751009	SNOMED CT
16a - Lat 2nd Diag	Lateral second diagonal branch segment		1000142405	ACC NCDR
17 - LAD SP	LAD septal perforator segments - LAD SP		244251006	SNOMED CT
18 - pCIRC	Proximal circumflex artery segment - pCIRC		52433000	SNOMED CT
19 - mCIRC	Mid-circumflex artery segment - mCIRC		91753007	SNOMED CT
19a - dCIRC	Distal circumflex artery segment - dCIRC		6511003	SNOMED CT
20 - 1st OM	First obtuse marginal branch segment - 1st OM		91754001	SNOMED CT
20a - Lat 1st OM	Lateral first obtuse marginal branch segment - Lat 1st OM		1000142406	ACC NCDR
21 - 2nd OM	Second obtuse marginal branch segment - 2nd OM		91755000	SNOMED CT
21a - Lat 2nd OM	Lateral second obtuse marginal branch segment - Lat 2nd OM		1000142407	ACC NCDR
22 - 3rd OM	Third obtuse marginal branch segment - 3rd OM		91756004	SNOMED CT
22a - Lat 3rd OM	Lateral third obtuse marginal branch segment - Lat 3rd OM		1000142408	ACC NCDR
23 - CIRC AV	Circumflex artery AV groove continuation segment - CIRC AV		75902001	SNOMED CT
24 - 1st LPL	First left posterolateral branch segment - 1st LPL		91757008	SNOMED CT
25 - 2nd LPL	Second left posterolateral branch segment - 2nd LPL		91758003	SNOMED CT
26 - 3rd LPL	Third posterolateral descending artery segment - 3rd LPL		91759006	SNOMED CT
27 - LPDA	Left posterolateral descending artery segment - LPDA		56322004	SNOMED CT
28 - Ramus	Ramus intermedius segment - Ramus		244252004	SNOMED CT
28a - Lat Ramus	Lateral ramus intermedius segment - Lat Ramus		1000142409	ACC NCDR
29 - 3rd Diag	Third diagonal branch segment - 3rd Diag		91752002	SNOMED CT
29a - Lat 3rd Diag	Lateral third diagonal branch segment - Lat 3rd Diag		1000142410	ACC NCDR

Section: Lesions and Devices **Parent: PCI Procedure**

Element: 8004 Stenosis Immediately Prior to Treatment

Coding Instruction: Indicate the percent diameter stenosis immediately prior to the treatment of this lesion.

Target Value: The highest value on current procedure

Element: 8005 Chronic Total Occlusion

Coding Instruction: Indicate if the segment with 100% pre-procedure stenosis was presumed to be 100% occluded for at least 3 months previous to this procedure AND not related to a clinical event prompting (or leading to) this procedure.

Target Value: Any occurrence on current procedure

Element: 8006 Chronic Total Occlusion Unknown

Coding Instruction: Indicate if the segment with 100% pre-procedure stenosis was presumed to be 100% occluded for at least 3 months previous to this procedure AND not related to a clinical event prompting (or leading to) this procedure was unknown.

Target Value: Any occurrence on current procedure

Element: 8007 TIMI Flow (Pre-Intervention)

Coding Instruction: Indicate the pre-intervention TIMI flow.

Note(s): If a lesion spans multiple segments with different TIMI flow, code the lowest TIMI flow within the entire lesion.

Target Value: The lowest value on current procedure

TIMI Flow

Selection	Definition	Source	Code	Code System
TIMI-0	No flow/no perfusion		371867000	SNOMED CT
TIMI-1	Slow penetration without perfusion		371866009	SNOMED CT
TIMI-2	Partial flow/partial perfusion (greater than TIMI-1 but less than TIMI-3).		371864007	SNOMED CT
TIMI-3	Complete and brisk flow/complete perfusion.		371865008	SNOMED CT

Element: 8008 Previously Treated Lesion

Coding Instruction: Indicate if the lesion has been treated before in the current or a prior episode of care.

Note(s):
Code 'No' if the only prior treatment was CABG.

Code 'No' if the only treatment of this lesion occurred during THIS PCI procedure.

Target Value: Any occurrence between birth and the procedure

Element: 8009 Previously Treated Lesion Date

Coding Instruction: Indicate the date the lesion was previously treated.

Target Value: The last value between birth and current procedure

Vendor Instruction: Previously Treated Lesion Date (8009) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 8010 Treated with Stent

Coding Instruction: Indicate if the previously treated lesion was treated with any type of stent in the current or prior episode of care.

Target Value: Any occurrence between birth and start of the current procedure

Element: 8011 In-stent Restenosis

Coding Instruction: Indicate if the previously treated and stented lesion is being treated for in-stent restenosis.

Note(s): In-stent restenosis is defined as a previously stented lesion that has 50% or greater stenosis.

Target Value: Any occurrence between birth and start of the current procedure

Element: 8012 In-stent Thrombosis

Coding Instruction: Indicate if the previously treated and stented lesion is being treated because of the presence of a thrombus in the stent.

Target Value: Any occurrence between birth and start of the current procedure

Supporting Definition: **Thrombosis in stented Lesion**

Section: Lesions and Devices **Parent: PCI Procedure**

The formation of a blood clot inside a previously treated and stented lesion.

Source:

Element: 8013 Stent Type

Coding Instruction: Indicate the type of stent used in the previously treated lesion.

Note(s): If a patient has multiple stents in the lesion code 'bioabsorbable' over either of the other two options when it is present.

If a DES and BMS are present in the lesion, code 'DES'.

Target Value: The last value between birth and start of the current procedure

Stent Device Type - 1.3.6.1.4.1.19376.1.4.1.6.5.307

Selection	Definition	Source	Code	Code System
DES	A drug-eluting stent is a coronary stent placed into narrowed, diseased coronary arteries that slowly releases a drug to prevent cell proliferation, thereby preventing fibrosis, that together with clots, could block the stented artery (restenosis).		411191007	SNOMED CT
BMS	A bare metal stent (BMS) is a coronary stent without eluting drugs.		464052002	SNOMED CT
Bioabsorbable	A bioabsorbable stent is a coronary stent placed into narrowed or diseased coronary arteries that is manufactured from a material that may dissolve or be absorbed by the body.		705632009	SNOMED CT

Element: 8014 Stent Type Unknown

Coding Instruction: Indicate if the type of stent used in the previously treated lesion is unknown.

Target Value: The last value between birth and start of the current procedure

Element: 8015 Lesion In Graft

Coding Instruction: Indicated if the lesion is in a coronary artery bypass graft.

Target Value: Any occurrence on current procedure

Element: 8016 Type of CABG Graft

Coding Instruction: Indicate in which type of bypass graft the lesion is located.

Target Value: Any occurrence on current procedure

Type of CABG Graft

Selection	Definition	Source	Code	Code System
LIMA	Left Internal Mammary Artery		261402001	SNOMED CT
Vein			181367001	SNOMED CT
Other Artery	Specific artery not available for selection in registry.		100013029	ACC NCDR

Element: 8017 Location in Graft

Coding Instruction: Indicate the location of the most severe stenosis, if the lesion is in the graft.

Target Value: Any occurrence on current procedure

Location in CABG Graft

Selection	Definition	Source	Code	Code System
Aortic	At the aortic anastomosis of the graft (<= 3 mm from insertion point).		1000142355	ACC NCDR
Body	In the body of the graft.		1000142354	ACC NCDR
Distal	At the distal anastomosis of the graft (<= 3 mm from insertion point).		1000142353	ACC NCDR

Element: 8018 Navigate through Graft to Native Lesion

Coding Instruction: Indicate if treatment of the native artery lesion required navigating through a graft (to reach the lesion).

Target Value: The value on current procedure

Element: 8019 Lesion Complexity

Coding Instruction: Indicate the complexity of the lesion as defined in the selections below.

Section: Lesions and Devices **Parent: PCI Procedure**

Target Value: Any occurrence on current procedure

Lesion Complexity

Selection	Definition	Source	Code	Code System
Non-High/Non-C	Non-high/non-C lesions are considered Type A or B lesions. They can be characterized as follows: Low Risk or Type A lesions: Discrete (<10 mm length) Concentric Readily accessible Non-angulated segment <45 degrees Smooth contour Little or no calcification Less than totally occlusive Not ostial in location No major branch involvement Absence of thrombus Medium Risk (Type B1) lesions: Tubular (10-20 mm length) Eccentric Moderate tortuosity of proximal segment Moderately angulated segment, 45-90 degrees Irregular contour Moderate to heavy calcification Ostial in location Bifurcation lesions requiring double guidewires Some thrombus present Total occlusion <3 months old Medium Risk (Type B2 lesions): Two or more "B" characteristics.		100000583	ACC NCDR
High/C	Descriptions of a High Lesion Risk (C Lesion): Diffuse (length > 2cm) Excessive tortuosity of proximal segment Extremely angulated segments > 90 degrees Total occlusions > 3 months old and/or bridging collaterals Inability to protect major side branches Degenerated vein grafts with friable lesions		100000584	ACC NCDR

Element: 8020 Lesion Length

Coding Instruction: Indicate the length of the treated lesion in millimeters.

Note(s):
If the lesion length is not available it is acceptable to code the length of the device used to treat the lesion.

If multiple devices are used sequentially, total the individual device lengths.

Information obtained after the baseline angiogram can be used to help determine lesion length (e.g. for total occlusions where the distal vessel can not be visualized).

Target Value: Any occurrence on current procedure

Vendor Instruction: When Lesion Length (8020) is [>20] then Lesion Complexity (8019) cannot be [Non-High/Non-C]

Element: 8021 Severe Calcification

Coding Instruction: Indicate if there was severe calcification of the lesion.

Note(s): To support coding there must documentation of 'severe calcification' specific to the lesion treated during the PCI procedure, by the interventionalist.

Target Value: The value on current procedure

Supporting Definition: **Severe calcification**

Severe calcification is most commonly defined as radiopacities seen without cardiac motion before contrast injection, usually affecting both sides of the arterial lumen.

Source: Madhavan MV, Tarigopula M, Mintz GS, Maehara A, Stone GW, Généreux P. Coronary Artery Calcification: Pathogenesis and Prognostic Implications. J Am Coll Cardiol. 2014;63(17):1703-1714. doi:10.1016/j.jacc.2014.01.017.

Element: 8022 Bifurcation Lesion

Coding Instruction: Indicate if the treated lesion is at a significant bifurcation, trifucation or more complex branch point.

Note(s):

Section: Lesions and Devices **Parent: PCI Procedure**

A significant bifurcation or branch point is a division of a vessel into at least two branches, each of which is >1.5 mm or greater in diameter. In a bifurcation or branch lesion, the plaque extends from at least one of the limbs to the branch point; it need not progress down all the proximal and distal branches. Bifurcations or branch point lesions should be considered one lesion, no matter how many limbs are treated.

Target Value: Any occurrence on current procedure

Element: 8023 Guidewire Across Lesion

Coding Instruction: Indicate if a guidewire successfully crossed the lesion.

Target Value: Any occurrence on current procedure

Element: 8024 Device Deployed

Coding Instruction: Indicate if a device was deployed during the procedure.

Note(s):
Code 'Yes' if an intracoronary device was used as designed (e.g. a balloon was inflated, a stent was placed, aspiration was attempted with a thrombectomy device, etc.) The success of the device used is not relevant.

If 'Yes' is selected for any lesion, at least one intracoronary device must be specified.

Target Value: The value on current procedure

Vendor Instruction: All Lesion Counters (8000) that have Device Deployed (8024) = Yes must have at least one Intracoronary Device(s) Used (8028) associated with the lesion (8030).

Element: 8025 Stenosis (Post-Intervention)

Coding Instruction: Indicate the post-intervention percent stenosis for the treated lesion.

Target Value: The highest value on current procedure

Element: 8026 TIMI Flow (Post-Intervention)

Coding Instruction: Indicate the post-intervention TIMI flow.

Note(s):
If a lesion spans multiple segments with different TIMI flows, coded the lowest TIMI flow within the entire lesion.

Target Value: The lowest value on current procedure

TIMI Flow

Selection	Definition	Source	Code	Code System
TIMI-0	No flow/no perfusion		371867000	SNOMED CT
TIMI-1	Slow penetration without perfusion		371866009	SNOMED CT
TIMI-2	Partial flow/partial perfusion (greater than TIMI-1 but less than TIMI-3).		371864007	SNOMED CT
TIMI-3	Complete and brisk flow/complete perfusion.		371865008	SNOMED CT

Section: Intracoronary Devices **Parent: PCI Procedure**

Element: 8027 Intracoronary Device Counter

Coding Instruction: The software-assigned intracoronary device counter should start at one and be incremented by one for each intracoronary device used.

Note(s):
The intracoronary device counter numbers should be assigned sequentially in ascending order. Do not skip numbers.

The intracoronary device counter is reset back to one for each procedure.

Target Value: N/A

Element: 8028 Intracoronary Device(s) Used

Coding Instruction: Indicate all devices utilized during the current procedure. If a device was utilized on multiple lesions, specify it only once (e.g., if a balloon was used to dilate two separate lesions, list it only once). Every treatment and support device utilized during the procedure should be specified.

Note(s):
Each intracoronary device must be associated with at least one lesion via the Lesion Counter (Element Ref# 8000) if Device Deployed (8024) is 'Yes'. An intracoronary device may be associated with more than one lesion.

The device(s) collected in this field are controlled by the Intracoronary Device Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: Any occurrence on current procedure

Vendor Instruction: When Intracoronary Device Counter (8027) has a value, Intracoronary Device(s) Used (8028) must have a value.

Element: 8030 Intracoronary Device Associated Lesion

Coding Instruction: Indicate all Lesion Counter Numbers (Element Ref# 8000) corresponding to the lesion(s) on which this device was used.

The lesion counter is used to distinguish between multiple lesions on which a PCI procedure is attempted or performed.

Target Value: The value on current procedure

Element: 8031 Intracoronary Device Diameter

Coding Instruction: Indicate the diameter of the intracoronary device in millimeters.

Target Value: The value on current procedure

Element: 8032 Intracoronary Device Length

Coding Instruction: Indicate the length of the device in millimeters.

Target Value: The value on current procedure

Section: Procedure Information — Parent: Lab Visit

Element: 7015 ICD Indication

Coding Instruction: Indicate the ICD procedure indication

Target Value: Any occurrence on current procedure

Procedure Indication - 1.3.6.1.4.1.19376.1.4.1.6.5.33

Selection	Definition	Source	Code	Code System
Primary prevention	Primary Prevention is an indication for an ICD to prevent sudden cardiac death. It refers to use of ICDs in individuals who are at risk for but have not yet had an episode of sustained ventricular tachycardia, ventricular fibrillation, or resuscitated cardiac arrest.		315233008	SNOMED CT
Secondary prevention	Secondary prevention refers to an indication for ICD exclusively for patients who have survived one or more cardiac arrests or sustained ventricular tachycardia. Patients with cardiac conditions associated with a high risk of sudden death who have unexplained syncope that is likely to be due to ventricular arrhythmias are considered to have a secondary indication.		315234002	SNOMED CT

Element: 14730 Bradycardia Indication Present

Coding Instruction: Indicate if a bradycardia indication was also present.

Target Value: The value on current procedure

Element: 14731 Reason Pacing Indicated

Coding Instruction: Select the reason pacing was indicated.

Target Value: The value on current procedure

Supporting Definition: **Reason Pacing Indicated**

Refer to the source for the supporting definition.

Source: Russo AM, Stainback RF, Bailey SR, et al. ACCF/HRS/AHA/ ASE/HFSA/SCAI/SCCT/SCMR 2013 appropriate use criteria for implantable cardioverter-defibrillators and cardiac resynchronization therapy. J Am Coll Cardiol 2013;61:1318–68. doi: 10.1016/j.jacc.2012.12.017

Vendor Instruction: When Reason Pacing Indicated (14731) is Not documented, no other reasons can be selected

Reason Pacing Indicated - 1.3.6.1.4.1.19376.1.4.1.6.5.763

Selection	Definition	Source	Code	Code System
2:1 AV block	P-waves with a constant rate (or near constant rate because of ventriculophasic sinus arrhythmia) rate (<100 bpm) where every other P-wave conducts to the ventricles		54016002	SNOMED CT
Anticipated requirement of > 40% RV pacing			100000931	ACC NCDR
AV node ablation			428663009	SNOMED CT
Chronotropic incompetence	Broadly defined as the inability of the heart to increase its rate commensurate with increased activity or demand, in many studies translates to failure to attain 80% of expected heart rate reserve during exercise.		427989008	SNOMED CT
Complete heart block (intrinsic)	No evidence of atrioventricular conduction.		27885002	SNOMED CT
HF unresponsive to GDMT			112000002017	ACC NCDR
Mobitz Type II	P-waves with a constant rate (< 100 bpm) with a periodic single non-conducted P-wave associated with other P-waves before and after the non-conducted P-wave with constant PR intervals (excluding 2:1 atrioventricular block)		28189009	SNOMED CT
Sick sinus syndrome	Sick sinus syndrome or sinus node dysfunction must be symptomatic to code 14731 as 'Yes'. This includes sinus bradycardia, ectopic atrial bradycardia, sinoatrial exit block, sinus pause, sinus node arrest, and tachycardia-bradycardia syndrome; all of which must be symptomatic.		36083008	SNOMED CT
Not documented			112000001830	ACC NCDR

Section: Device Implant/Explant **Parent: Lab Visit**

Element: 7620 Device Implanted

Coding Instruction: Indicate if a device was implanted.

Target Value: Any occurrence on current procedure

Element: 7625 Final Device Type

Coding Instruction: Indicate the device type that was implanted at the completion of the procedure.

Target Value: Any occurrence on current procedure

Implantation Device Type Dynamic List - 1.3.6.1.4.1.19376.1.4.1.6.5.940

Selection	Definition	Source	Code	Code System
CRT-D	A cardiac resynchronization therapy device and defibrillator (CRT-D) has dual capabilities. It is a biventricular pacemaker that sends electrical signals to both ventricles as well as a defibrillator. It may or may not have an atrial pacing wire.		100001216	ACC NCDR
EV ICD	The extravascular (EV) ICD system has a lead (thin wire) is placed outside the heart and veins, under the sternum (breastbone).		112000003612	ACC NCDR
ICD Dual Chamber	A dual-chamber ICD defibrillates the ventricle and paces the atrium and ventricle.		100001215	ACC NCDR
ICD Single Chamber	A single-chamber ICD defibrillates the ventricle and paces the ventricle.		100001214	ACC NCDR
S-ICD (Sub Q)	A subcutaneous only defibrillator.		100001217	ACC NCDR
CRT-P	A CRT procedure is the placement of a biventricular pacemaker that sends electrical signals to both ventricles that resynchronizes the heart chambers and helps it pump more effectively. It may or may not have an atrial pacing wire.		704708004	SNOMED CT
His/Left bundle pacemaker	His-bundle pacing is a method for delivering permanent pacing. It produces physiological ventricular activation via the His-Purkinje system. / Left bundle pacing is a method for delivering permanent pacing. It produces physiological ventricular activation via the Left bundle.		112000002039	ACC NCDR
Leadless single chamber PM	A self-contained transvenous pacemaker generator and electrode system implanted directly into the right ventricle. The device is implanted via a femoral vein transcatheter approach; it requires no chest incision or subcutaneous generator pocket.		112000002030	ACC NCDR

Element: 7630 Coronary Sinus/Left Ventricular (CS/LV) lead

Coding Instruction: Indicate if the coronary sinus/left ventricular (CS/LV) lead was implanted during the current procedure.

Target Value: Any occurrence on current procedure

Lead Implantation Outcome - 1.3.6.1.4.1.19376.1.4.1.6.5.35

Selection	Definition	Source	Code	Code System
Implant unsuccessful			100001143	ACC NCDR
Previously implanted			100001084	ACC NCDR
Successfully implanted			100001107	ACC NCDR
Not attempted			100001057	ACC NCDR

Element: 14739 His/Left Bundle Lead

Coding Instruction: Indicate if the His/left bundle lead was implanted during the current procedure.

Target Value: The value on current procedure

Lead Implantation Outcome - 1.3.6.1.4.1.19376.1.4.1.6.5.35

Selection	Definition	Source	Code	Code System
Implant unsuccessful			100001143	ACC NCDR
Previously implanted			100001084	ACC NCDR
Successfully implanted			100001107	ACC NCDR
Not attempted			100001057	ACC NCDR

Section: Implant Device Information **Parent: Device Implant/Explant**

Element: 7635 Implant Device ID

Coding Instruction: Indicate the assigned identification number associated with the implanted device.

Note(s):
The devices that should be collected in your application are controlled by a Defibrillator Device Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: Any occurrence on current procedure

Element: 7640 Implant Device Serial Number

Coding Instruction: Indicate the serial number of the device that was implanted.

Target Value: Any occurrence on current procedure

Section: Change or Explant Information **Parent: Device Implant/Explant**

Element: 7650 Reason(s) for Generator Replacement

Coding Instruction: Indicate the reason(s) for the replacement.

Target Value: Any occurrence on current procedure

Reimplant Reason - 1.3.6.1.4.1.19376.1.4.1.6.5.36

Selection	Definition	Source	Code	Code System
Device relocation			100001087	ACC NCDR
End of expected battery life			100001088	ACC NCDR
Faulty connector/header			100001089	ACC NCDR
Infection			100001091	ACC NCDR
Malfunction			100001090	ACC NCDR
Replaced at time of lead revision			100001092	ACC NCDR
Under manufacturer advisory/recalled			100001093	ACC NCDR
Upgrade			100001094	ACC NCDR

Element: 7660 Device Explanted

Coding Instruction: Indicate if the previous device was explanted.

Target Value: Any occurrence between previous device implant and current procedure

Generator Explant Response - 1.3.6.1.4.1.19376.1.4.1.6.5.217

Selection	Definition	Source	Code	Code System
Explanted			100001141	ACC NCDR
Not explanted			100001140	ACC NCDR
Previously explanted			100001083	ACC NCDR

Section: Explant Device Information **Parent: Change or Explant Information**

Element: 7675 Explant Device ID

Coding Instruction: Indicate the assigned identification number associated with the explanted device.

Note(s):
The devices that should be collected in your application are controlled by a Defibrillator Device Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: Any occurrence between previous device implant and current procedure

Vendor Instruction: When Explant Device Serial Number (7680) is answered, Explant Device ID (7675) cannot be Null

Element: 7680 Explant Device Serial Number

Coding Instruction: Indicate the serial number of the explanted device.

Target Value: Any occurrence between previous device implant and current procedure

Element: 7665 Prior Generator Explant Date

Coding Instruction: Indicate the date the device was explanted.

Note(s):
If the month or day of the device explanted is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had device explanted documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Target Value: The last value between the implant and the end of current procedure

Vendor Instruction: Prior Generator Explant Date (7665) must be Less than or Equal to Procedure Start Date and Time (7000)

Section: Lead Assessment **Parent: Lab Visit**

Element: 7710 Lead Counter

Coding Instruction: The software-assigned lead counter should start at one and be incremented by one for each new or existing lead documented.

Target Value: N/A

Element: 7715 Lead Identification

Coding Instruction: Indicate if the lead is a new or existing lead. All new leads placed or existing leads extracted, abandoned, or reused should be identified in the leads section.

Note(s):
If a lead was attempted, but not actually implanted, do not include it. For example, if a lead turns out to be too short, or with inadequate coil spacing, or is too large/unstable for the coronary sinus branch vein, do not include it in the registry.

Target Value: The value on current procedure

New or Existing Lead - 1.3.6.1.4.1.19376.1.4.1.6.5.182

Selection	Definition	Source	Code	Code System
New lead	A lead that is implanted for the first time.		100001047	ACC NCDR
Existing lead	A lead that has been previously implanted.		100001001	ACC NCDR

Element: 7740 Existing Lead Implant Date

Coding Instruction: Indicate the date the existing lead was initially implanted.

Note(s):
If the month or day of the implant is unknown, please code 01/01/YYYY. If the specific year is unknown in the current record, the year may be estimated based on timeframes found in prior medical record documentation (Example: If the patient had a lead implant documented in a record from 2011, then the year 2011 can be utilized and coded as 01/01/2011).

Target Value: The last value between birth and current procedure

Vendor Instruction: Existing Lead Implant Date (7740) must be Less than or Equal to Procedure Start Date and Time (7000)

Element: 7745 Existing Lead Status

Coding Instruction: Indicate the status of the existing lead.

Target Value: Any occurrence on current procedure

Existing Lead Status - 1.3.6.1.4.1.19376.1.4.1.6.5.183

Selection	Definition	Source	Code	Code System
Extracted	The existing lead was extracted in whole or part and removed.		100001004	ACC NCDR
Abandoned	The existing lead was left in situ, abandoned and not reused.		100000925	ACC NCDR
Reused	The existing lead was left in situ and reused.		100001099	ACC NCDR

Element: 7720 Lead Identification Number

Coding Instruction: Indicate the assigned identification for new or existing leads placed, reused, extracted or abandoned during the procedure.

Note(s):
The lead devices that should be collected in your application are controlled by a Leads Device Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application.

Target Value: The value on current procedure

Vendor Instruction: When Lead Serial Number (7725) is answered, Lead Identification Number (7720) cannot be Null

Element: 7725 Lead Serial Number

Coding Instruction: Indicate the manufacturer's serial number of the lead.

Target Value: The value on current procedure

Vendor Instruction: A Lead Serial Number (7725) may only be entered/selected once

Element: 7735 Lead Location

Coding Instruction: Indicate the location of the lead.

Target Value: Any occurrence on current procedure

Lead Location (Target Site) - Dynamic List - 1.3.6.1.4.1.19376.1.4.1.6.5.943

Selection	Definition	Source	Code	Code System

Section: Lead Assessment		Parent: Lab Visit	
Azygos vein	A pacing or defibrillating lead placed in a vein (azygos) on the right side at the back of the thorax.	72107004	SNOMED CT
His bundle	A pacing or defibrillating lead placed at the location of the His bundle.	345000	SNOMED CT
Left bundle	A pacing or defibrillating lead placed at the location of the left bundle.	74031005	SNOMED CT
LV endocardial	A pacing or defibrillating lead placed onto the left ventricular endocardium.	112000003605	ACC NCDR
LV epicardial (CVS)	A pacing or defibrillating lead placed transvenously onto the left ventricle through the coronary venous system.	100001136	ACC NCDR
LV epicardial (surgical)	A pacing or defibrillation lead placed transthoracically onto the left ventricular epicardium.	100001135	ACC NCDR
RA endocardial	A pacing lead placed transvenously into the right atrial endocardium.	3194006	SNOMED CT
RA epicardial	A pacing or defibrillating lead placed on the outside of the cardiac muscle onto right atrium	112000002026	ACC NCDR
RV endocardial	A pacing or defibrillation lead placed transvenously into the right ventricular endocardium.	304059001	SNOMED CT
RV epicardial	A pacing or defibrillating lead placed on the outside of the cardiac muscle onto right ventricle.	112000002027	ACC NCDR
Subcutaneous array	A defibrillation electrode that is placed subcutaneously.	100001106	ACC NCDR
Subcutaneous (S-ICD)	A defibrillation lead placed subcutaneously.	100001138	ACC NCDR
Substernal	A pacing or defibrillating lead placed under the sternum.	33547000	SNOMED CT
SVC/subclavian	A defibrillating lead placed in the superior vena cava or subclavian vein.	100001137	ACC NCDR
Other	A lead placed in a location not specified above.	100001066	ACC NCDR

Section: Intra PCI **Parent: Intra or Post-Procedure Events**

Element: 9145 Coronary Artery Perforation

Coding Instruction: Indicate if angiographic or clinical evidence of perforation was observed.

Target Value: Any occurrence on current procedure

Supporting Definition: **Perforation**

A coronary artery perforation occurs when there is angiographic or clinical evidence of a dissection or intimal tear that extends through the full thickness of the arterial wall.

Source: NCDR

Element: 9146 Significant Coronary Artery Dissection

Coding Instruction: Indicate if a significant coronary artery dissection was observed.

Note(s):
Typically, dissections described as type A or B are not considered significant dissections because there is no impairment of flow.

Significant dissections are grade C dissections in the presence of ischemia, or grade D-F dissections, all of which are further described as:

type C: persisting contrast medium extravasations;
type D: spiral filling defect with delayed but complete distal flow;
type E: persistent filling defect with delayed antegrade flow;
type F: filling defect with impaired flow and total occlusion

Target Value: Any occurrence on current procedure

Supporting Definition: **Dissection**

Dissection is defined as the appearance of contrast materials outside of the expected luminal dimensions of the target vessel and extending longitudinally beyond the length of the lesion.

Source: NCDR

Section: Intra or Post-Procedure Events **Parent: Intra or Post-Procedure Events**

Element: 9001 Intra/Post-Procedure Events

Coding Instruction: Indicate the event that occurred between the procedure and the next procedure or discharge.

Target Value: Any occurrence between start of procedure and until next procedure or discharge

Vendor Instruction: Intra/Post-Procedure Events (9001) must not be duplicated in a procedure

Post-Procedure Events - 2.16.840.1.113883.3.3478.6.3.10

Selection	Definition	Source	Code	Code System
Bleeding - Access site	Indicate whether the patient experienced external bleeding at the access (percutaneous) site that was observed and documented in the medical record: To qualify there must be evidence of any of the following: 1. Hemoglobin drop of >=3 g/dL; 2. Transfusion of whole blood or packed red blood cells; 3. Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed).		1000142440	ACC NCDR
Bleeding - Gastrointestinal	Indicate whether the patient experienced gastrointestinal bleeding that was observed and documented in the medical record: To qualify there must be evidence of any of the following: 1. Hemoglobin drop of >=3 g/dL; 2. Transfusion of whole blood or packed red blood cells; 3. Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed).		74474003	SNOMED CT
Bleeding - Genitourinary	Indicate whether the patient experienced genitourinary bleeding that was observed and documented in the medical record: To qualify there must be evidence of any of the following: 1. Hemoglobin drop of >=3 g/dL; 2. Transfusion of whole blood or packed red blood cells; 3. Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed)		417941003	SNOMED CT
Bleeding - Hematoma at access site	Indicate whether the patient experienced a hematoma at the percutaneous entry site that was observed and documented in the medical record: To qualify there must be evidence of any of the following: 1. Hemoglobin drop of >=3 g/dL; 2. Transfusion of whole blood or packed red blood cells; 3. Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed).		385494008	SNOMED CT
Bleeding - Other	Indicate whether the patient experienced a bleeding event not available for selection within the registry that was observed and documented in the medical record: To qualify there must be evidence of any of the following: 1. Hemoglobin drop of >=3 g/dL;		1000142371	ACC NCDR

Section: Intra or Post-Procedure Events		Parent: Intra or Post-Procedure Events		
	2. Transfusion of whole blood or packed red blood cells; 3. Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed).			
Bleeding - Retroperitoneal	Indicate whether the patient experienced retroperitoneal bleeding that was observed and documented in the medical record: To qualify there must be evidence of any of the following: 1. Hemoglobin drop of >=3 g/dL; 2. Transfusion of whole blood or packed red blood cells; 3. Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed).		95549001	SNOMED CT
Cardiac arrest	Indicate whether the patient experienced cardiac arrest. Cardiac arrest is defined as acute cardiac event documented by one of the following: • Ventricular fibrillation • Rapid ventricular tachycardia or bradycardia rhythms with hemodynamic compromise causing loss of consciousness • Pulseless rhythms (PEA) • Asystole • Requiring cardiopulmonary resuscitation (two or more chest compressions or open chest massage, emergency temporary pacing, pericardiocentesis, institution of ECMO, or defibrillation) and without these measures death would have almost certainly resulted. Note: If an event occurs that meets the above definition of cardiac arrest, code "yes" regardless of resuscitation status of DNR/hospice/comfort care.	Data Governance Subcommittee of the NCDR's Clinical Science and Quality Committee	410429000	SNOMED CT
Cardiac perforation			36191001:123005000=302509004	SNOMED CT
Cardiac tamponade	Indicate whether the patient experienced fluid in the pericardial space compromising cardiac filling and requiring intervention. Tamponade must be documented by either: 1. Echocardiogram showing pericardial fluid and signs of tamponade such as right heart compromise, or 2. Systemic hypotension due to pericardial fluid compromising cardiac function.		35304003	SNOMED CT
Cardiogenic shock	Indicate whether the patient experienced new onset or an acute recurrence of cardiogenic shock Cardiogenic shock is defined as a sustained (>30 min) episode of systolic blood pressure <90 mm Hg and/or cardiac index <2.2 L/min per square meter determined to be secondary to cardiac dysfunction and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support (eg, IABP, extracorporeal circulation, VADs) to maintain blood pressure and cardiac index above those specified levels. Note: Transient episodes of hypotension reversed with IV fluid or atropine do not constitute cardiogenic shock. The hemodynamic compromise (with or without extraordinary supportive therapy) must persist for at least 30 min.	Cannon CP, et al. 2013 ACCF/AHA Key Data Elements and Definitions for Measuring the Clinical Management and Outcomes of Patients With Acute Coronary Syndromes and Coronary Artery Disease: A Report of the ACC/AHA Task Force on Clinical Data Standards (Writing Committee to Develop Acute Coronary Syndromes and Coronary Artery Disease Clinical Data Standards). J Am Coll Cardiol. 2013;61(9):992-1025.	89138009	SNOMED CT
Coronary venous dissection			100000029	ACC NCDR
Heart failure	Indicate whether the patient was diagnosed with new onset or acute recurrence of heart failure		84114007	SNOMED CT

Section: Intra or Post-Procedure Events		Parent: Intra or Post-Procedure Events		
	which necessitated new or increased pharmacologic therapy. There is no single diagnostic test for HF because it is largely a clinical diagnosis based on a careful history and physical examination.			
Hematoma (Re-op, evac, or transfusion)	Pocket hematoma as a result of the procedure, requiring a reoperation, evacuation or transfusion.		112000003611	ACC NCDR
Hemothorax			31892009	SNOMED CT
Myocardial infarction	Indicate whether the patient experienced a NEW occurrence of biomarker positive myocardial infarction (at least one determination of biomarkers obtained no sooner than 6 hours after the procedure, preferably within the interval of 6-24 hours post-procedure should be used). Notes: Code 'Yes' when new Q waves are present with absent, incomplete or inconclusive biomarkers. Code 'Yes' when biomarkers are not obtained in the setting of post-PCI acute MI. The term acute myocardial infarction (MI) should be used when there is evidence of myocardial necrosis in a clinical setting consistent with acute myocardial ischemia. Under these conditions any one of the following criteria meets the diagnosis for MI: - Detection of a rise and/or fall of cardiac biomarker values [preferably cardiac troponin (cTn) with at least one value above the 99th percentile upper reference limit (URL) and with at least one of the following: Symptoms of ischemia. New or presumed new significant ST-segment-T wave (ST-T) changes or new left bundle branch block (LBBB). Development of pathological Q waves in the ECG. Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality. Identification of an intracoronary thrombus by angiography or autopsy. - Cardiac death with symptoms suggestive of myocardial ischemia and presumed new ischemic ECG changes or new LBBB, but death occurred before cardiac biomarkers were obtained, or before cardiac biomarker values would be increased. - Percutaneous coronary intervention (PCI) related MI is arbitrarily defined by elevation of cTn values (>5 x 99th percentile URL) in patients with normal baseline values (99th percentile URL) or a rise of cTn values >20% if the baseline values are elevated and are stable or falling. In addition, either (i) symptoms suggestive of myocardial ischemia or (ii) new ischemic ECG changes or (iii) angiographic findings consistent with a procedural complication or (iv) imaging demonstration of new loss of viable myocardium or new regional wall motion abnormality are required. - Stent thrombosis associated with MI when detected by coronary angiography or autopsy in the setting of myocardial ischemia and with a rise and/or fall of cardiac biomarker values with at least one value above the 99th percentile URL. - Coronary artery bypass grafting (CABG) related MI is arbitrarily defined by elevation of cardiac biomarker values (>10 x 99th percentile URL) in patients with normal baseline cTn values (99th percentile URL). In addition, either (i) new pathological Q waves or new LBBB, or (ii) angiographic documented new graft or new native coronary artery occlusion, or (iii) imaging evidence of new loss of viable myocardium or		22298006	SNOMED CT

Section: Intra or Post-Procedure Events	Parent: Intra or Post-Procedure Events			
	new regional wall motion abnormality.			
Other vascular complications req Tx	Indicate whether the patient experienced any other vascular complications (excluding external bleeding or hematomas) at the percutaneous entry site that required treatment or intervention. To qualify, this adverse outcome should be attributable to this procedure and not related to a previous or subsequent procedure. Vascular complications can include, but are not limited to, access site occlusions, peripheral embolization, dissections, pseudoaneurysms and/or AV fistulas. Any noted vascular complication must have an intervention such as fibrin injection, angioplasty, or surgical repair to qualify. Prolonged pressure does not qualify as an intervention, but ultrasonic guided compression after making a diagnosis of pseudoaneurysm does qualify. A retroperitoneal bleed or hematoma requiring transfusion is not a vascular complication under this data element.		1000142419	ACC NCDR
Pneumothorax			36118008	SNOMED CT
Stroke	An ischemic stroke is an acute episode of focal or global neurological dysfunction caused by brain, spinal cord, or retinal vascular injury as a result of infarction of central nervous system tissue. Hemorrhage may be a consequence of ischemic stroke. In this situation, the stroke is an ischemic stroke with hemorrhagic transformation and not a hemorrhagic stroke. A hemorrhagic stroke is defined as an acute episode of focal or global cerebral or spinal dysfunction caused by intraparenchymal, intraventricular, or subarachnoid hemorrhage (note: subdural hematomas are intracranial hemorrhagic events and not strokes).	Hicks KA, Tcheng JE, Bozkurt B, et al. 2014 ACC/AHA Key Data Elements and Definitions for Cardiovascular Endpoint Events in Clinical Trials: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Data Standards (Writing Committee to Develop Cardiovascular Endpoints Data Standards). J Am Coll Cardiol. 2015;():. Doi:10.1016/j.jacc.2014.12.018.	230690007	SNOMED CT
Transient ischemic attack (TIA)			266257000	SNOMED CT

Element: 9002 Intra/Post-Procedure Events Occurred

Coding Instruction: Indicate if the post procedure event did or did not occur.

Target Value: Any occurrence between start of procedure and until next procedure or discharge

Vendor Instruction: When Intra/Post-Procedure Events (9001) are provided then Intra/Post-Procedure Events Occurred (9002) cannot be Null

Section: Intra or Post-Procedure Events **Parent: Intra or Post-Procedure Events**

Element: 9275 Packed Red Blood Cell Transfusion

Coding Instruction: Indicate if there was a transfusion(s) of packed red blood cells.

Target Value: Any occurrence between start of procedure and until next procedure or discharge

Element: 8505 Hemoglobin

Coding Instruction: Indicate the hemoglobin (Hgb) value in g/dL.

Target Value: The lowest value between current procedure and 72 hours after current procedure

Supporting Definition: **Hemoglobin**

Hemoglobin (Hb or Hgb) is the iron-containing oxygen-transport metalloprotein in the red blood cells. It carries oxygen from the lungs to the rest of the body (i.e. the tissues) where it releases the oxygen to burn nutrients and provide energy. Hemoglobin concentration measurement is among the most commonly performed blood tests, usually as part of a complete blood count. If the concentration is below normal, this is called anemia. Anemias are classified by the size of red blood cells: "microcytic" if red cells are small, "macrocytic" if they are large, and "normocytic" if otherwise. Dehydration or hyperhydration can greatly influence measured hemoglobin levels.

Source: http://s.details.loinc.org/LOINC/718-7.html?sections=Simple

Element: 8506 Hemoglobin Not Drawn

Coding Instruction: Indicate if the hemoglobin was not drawn.

Target Value: The lowest value between current procedure and 72 hours after current procedure

Section: Post Procedure Events **Parent: Intra or Post-Procedure Events**

Element: 9255 Set Screw Problem

Coding Instruction: Indicate if the patient had a pacing and/or sensing problem associated with high impedance due to a poor connection between a lead and device caused by a loose set screw.

Note(s):
Indicate if the patient experienced a set screw problem between completion of ICD procedure until next ICD procedure or discharge.

Target Value: Any occurrence between completion of the procedure and until next procedure or discharge

Element: 9260 Lead Dislodgement

Coding Instruction: Indicate if the patient experienced a lead dislodgement as documented by movement of a lead that requires repositioning and reoperation.

Target Value: Any occurrence between completion of the procedure and until next procedure or discharge

Element: 9265 Lead Location (Dislodgement)

Coding Instruction: Indicate the location of the lead in which the dislodgement occurred.

Target Value: Any occurrence between completion of the procedure and until next procedure or discharge

Lead Location (Target Site) - Dynamic List - 1.3.6.1.4.1.19376.1.4.1.6.5.943

Selection	Definition	Source	Code	Code System
Azygos vein	A pacing or defibrillating lead placed in a vein (azygos) on the right side at the back of the thorax.		72107004	SNOMED CT
His bundle	A pacing or defibrillating lead placed at the location of the His bundle.		345000	SNOMED CT
Left bundle	A pacing or defibrillating lead placed at the location of the left bundle.		74031005	SNOMED CT
LV endocardial	A pacing or defibrillating lead placed onto the left ventricular endocardium.		112000003605	ACC NCDR
LV epicardial (CVS)	A pacing or defibrillating lead placed transvenously onto the left ventricle through the coronary venous system.		100001136	ACC NCDR
LV epicardial (surgical)	A pacing or defibrillation lead placed transthoracically onto the left ventricular epicardium.		100001135	ACC NCDR
RA endocardial	A pacing lead placed transvenously into the right atrial endocardium.		3194006	SNOMED CT
RA epicardial	A pacing or defibrillating lead placed on the outside of the cardiac muscle onto right atrium		112000002026	ACC NCDR
RV endocardial	A pacing or defibrillation lead placed transvenously into the right ventricular endocardium.		304059001	SNOMED CT
RV epicardial	A pacing or defibrillating lead placed on the outside of the cardiac muscle onto right ventricle.		112000002027	ACC NCDR
Subcutaneous array	A defibrillation electrode that is placed subcutaneously.		100001106	ACC NCDR
Subcutaneous (S-ICD)	A defibrillation lead placed subcutaneously.		100001138	ACC NCDR
Substernal	A pacing or defibrillating lead placed under the sternum.		33547000	SNOMED CT
SVC/subclavian	A defibrillating lead placed in the superior vena cava or subclavian vein.		100001137	ACC NCDR
Other	A lead placed in a location not specified above.		100001066	ACC NCDR

Section: Discharge **Parent: Root**

Element: 10101 Discharge Date and Time

Coding Instruction: Indicate the date and time the patient was discharged from your facility as identified in the medical record.

Note(s): Indicate the time (hours: minutes) using the military 24-hour clock, beginning at midnight (00:00 hours).

Target Value: The value on discharge

Vendor Instruction: Discharge Date and Time (10101) must be Greater than Arrival Date and Time (3001)

Discharge Date and Time (10101) and Arrival Date and Time (3001) must not overlap on multiple episodes

Element: 10105 Discharge Status

Coding Instruction: Indicate whether the patient was alive or deceased at discharge.

Target Value: The value on discharge

Discharge Life Status - 1.3.6.1.4.1.19376.1.4.1.6.5.42

Selection	Definition	Source	Code	Code System
Alive			438949009	SNOMED CT
Deceased			20	HL7 Discharge disposition

Element: 10110 Discharge Location

Coding Instruction: Indicate the location to which the patient was discharged.

Target Value: The value on discharge

Discharge Location - 1.3.6.1.4.1.19376.1.4.1.6.5.41

Selection	Definition	Source	Code	Code System
Home			01	HL7 Discharge disposition
Skilled nursing facility	Skilled nursing facilities are typically for longer anticipated length of stay, as there are fewer requirements placed on subacute programs. An acute rehabilitation unit may be part of a skilled nursing facility (SNF), however, it is the higher level of care (acute rehab).		64	HL7 Discharge disposition
Extended care/transitional care unit/rehab	An Extended Care/transitional care/rehab unit (selection 2) typically provides a high level of intensive therapy as well as specialized nursing and physician care. This discharge setting may also be called subacute care or long term acute care (LTACH).		62	HL7 Discharge disposition
Other			100001249	ACC NCDR
Acute care hospital			02	HL7 Discharge disposition
Left against medical advice (AMA)	The patient was discharged or eloped against medical advice.		07	HL7 Discharge disposition

Element: 15608 Emergent Transfer to Acute Care Hospital

Coding Instruction: Indicate if the transfer to the acute care hospital was done emergently.

Target Value: The value on discharge

Supporting Definition: **Transfer Due to Need for Higher Level of Care**

A transfer to a higher level of care is considered "emergent" in the situation where the absence of immediate higher level of medical attention could result in a severe life-threatening or possibly disabling condition.

Source: Centers for Medicare and Medicaid Services

Element: 15702 Suspected Condition(s)

Coding Instruction: Indicate the suspected condition(s) prompting transfer to an acute care hospital.

Target Value: The value on discharge

Vendor Instruction: When Suspected Condition(s) (15702) is None documented, no other Suspected Conditions can be selected.

Suspected Conditions - 1.3.6.1.4.1.19376.1.4.1.6.5.945

Selection	Definition	Source	Code	Code System
Bleeding - Gastrointestinal			74474003	SNOMED CT
Bleeding - Other			1000142371	ACC NCDR
Bleeding - Retroperitoneal			95549001	SNOMED CT
NSTEMI			401314000	SNOMED CT
Other vascular complications			1000142419	ACC NCDR
Stroke			230690007	SNOMED CT

Section: Discharge **Parent: Root**

Transient ischemic attack (TIA)	266257000	SNOMED CT
Other	100000351	ACC NCDR
None documented	112000001830	ACC NCDR

Element: 10116 Cardiac Rehabilitation Referral

Coding Instruction: Indicate if a cardiac rehabilitation referral was provided.

The program may include a traditional cardiac rehabilitation program based on face-to-face interactions and training sessions or may include other options such as home-based approaches.

Target Value: The value on discharge

Cardiac Rehab - 1.3.6.1.4.1.19376.1.4.1.6.5.334

Selection	Definition	Source	Code	Code System
Yes	1. Documented communication between the healthcare provider and the patient to recommend an outpatient cardiac rehabilitation (CR) program AND 2A. Official referral order is sent to outpatient cardiac rehabilitation program OR 2B. Documentation of patient refusal to justify why patient information was not sent to the cardiac rehabilitation program. Note: Code 'yes' when step 1 AND either 2A or 2B are completed and documented.		100013072	ACC NCDR
No - Reason not documented			100014064	ACC NCDR
No - Medical reason documented	Patient deemed by a medical professional to have a medically unstable, life-threatening condition or has other cognitive or physical impairments that preclude cardiac rehabilitation participation.		100014066	ACC NCDR
No - Health care system reason documented	Patient is discharged to a nursing care or long-term care facility, or patient lacks medical coverage for cardiac rehabilitation (CR).		100014065	ACC NCDR
No - Patient-oriented reason	No traditional cardiac rehabilitation (CR) program available to the patient, within a 60 minute travel time from the patient's home, or patient does not have access to an alternative model of CR delivery that meets all criteria for a CR program.		112000000520	ACC NCDR

Section: Discharge Medications — Parent: Discharge

Element: 10200 — Discharge Medication Code

Coding Instruction: Indicate the assigned identification number associated with the medications the patient was prescribed upon discharge.

Note(s):
Discharge medications not required for patients who expired, discharged to "Other acute care hospital", "Left against medical advice (AMA)" or are receiving Hospice Care.

The medication(s) collected in this field are controlled by the Medication Master file. This file is maintained by the NCDR and will be made available on the internet for downloading and importing/updating into your application. Each medication in the Medication Master file is assigned to a value set. The value set is used to separate procedural medications from medications prescribed at discharge. The separation of these medications is depicted on the data collection form.

Target Value: N/A

Vendor Instruction: Discharge Medication Code (10200) must not be duplicated in an episode

Discharge Medication - 1.3.6.1.4.1.19376.1.4.1.6.5.165

Selection	Definition	Source	Code	Code System
Aldosterone receptor antagonist (Any)			372603003	SNOMED CT
Angiotensin converting enzyme inhibitor (ACE-I) (Any)			41549009	SNOMED CT
Angiotensin receptor blocker (ARB) (Any)			372913009	SNOMED CT
Angiotensin II receptor blocker neprilysin inhibitor (ARNI)			112000001832	ACC NCDR
Antiarrhythmic drug (Any)			67507000	SNOMED CT
Antiplatelet drug (Any)			372560006	SNOMED CT
Apixaban			1364430	RxNorm
Aspirin			1191	RxNorm
Beta blocker (Any)			33252009	SNOMED CT
Clopidogrel			32968	RxNorm
Dabigatran			1546356	RxNorm
Direct oral anticoagulant (DOAC) (Any)			112000002174	ACC NCDR
Edoxaban			1599538	RxNorm
Prasugrel			613391	RxNorm
Renin Inhibitor			426228001	SNOMED CT
Selective Sinus Node I/f Channel Inhibitor			112000001831	ACC NCDR
Statin (Any)			96302009	SNOMED CT
Ticagrelor			1116632	RxNorm
Ticlopidine			10594	RxNorm
Vorapaxar			1537034	RxNorm
Warfarin			11289	RxNorm

Element: 10205 — Discharge Medication Prescribed

Coding Instruction: Indicate if the medication was prescribed, not prescribed, or was not prescribed for either a medical or patient reason.

Target Value: The value on discharge

Discharge Medication Administration - 1.3.6.1.4.1.19376.1.4.1.6.5.86

Selection	Definition	Source	Code	Code System
Yes	Code 'Yes' if this medication was initiated (or prescribed).		100001247	ACC NCDR
No - No Reason	Code 'No' if this medication was not prescribed post procedure or for discharge and there was no mention of a reason why it was not ordered within the medical documentation.		100001048	ACC NCDR
No - Medical Reason	Code 'No Medical Reason' if this medication was not prescribed post procedure or for discharge and there was a reason documented related to a medical issue or medical concern for not prescribing the medicine.		100001034	ACC NCDR
No - Pt. Reason	Code 'No, Patient Reason' if this medication was not prescribed post procedure or for discharge and there was a reason documented related to the patient's preference.		100001071	ACC NCDR

Element: 10207 — Discharge Medication Dose

Coding Instruction: Indicate the category of the medication dose prescribed.

Section: Discharge Medications — Parent: Discharge

Note(s): If the statin dose prescribed is outside (either higher or lower) the intensity category, leave the dose blank.

If the statin dose prescribed overlaps two intensity categories, code the lower intensity category.

Target Value: The value on discharge

Medication Dose - 1.3.6.1.4.1.19376.1.4.1.6.5.321

Selection	Definition	Source	Code	Code System
Low	Daily dose lowers LDL-C, on average, by <30% Fluvastatin 20-40 mg Lovastatin 20 mg Pitavastatin 1 mg Pravastatin 10-20 mg Rosuvastatin <5 mg Simvastatin 10 mg	Grundy SM, Stone NJ, Bailey AL., et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA guideline on the management of blood cholesterol: a report of the ACC/AHA Task Force on Clinical Practice Guidelines. J Am Coll Cardiol 2019;73:e285–350	100014036	ACC NCDR
Moderate	Daily dose lowers LDL-C, on average, by approximately 30% to <50% Atorvastatin 10-20 mg Fluvastatin 40 mg twice daily Fluvastatin XL 80 mg Lovastatin 40 mg Pitavastatin 2-4 mg Pravastatin 40-80 mg Rosuvastatin 5-10 mg Simvastatin 20-40 mg	Grundy et al., 2019.	100014035	ACC NCDR
High	Daily dose lowers LDL-C, on average, by approximately >=50% Atorvastatin 40-80 mg Rosuvastatin 20-40 mg	Source: Grundy SM, Stone NJ, Bailey AL, et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the management of blood cholesterol: A report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol 2018; doi: https://doi.org/10.1016/j.jacc.2018.11.003.	100014034	ACC NCDR

Section: Discharge Medications **Parent: Discharge**

Element: 15546 Patient or Medical Reason for Not Prescribing High-Dose Statin

Coding Instruction: Indicate if there was either a patient or medical reason that a high-dose statin was not prescribed if a moderate or low-dose statin was prescribed.

Target Value: The last value on discharge

Section: Administration **Parent: Root**

Element: 1000 Participant ID

Coding Instruction: Indicate the participant ID of the submitting facility.

Target Value: N/A

Element: 1010 Participant Name

Coding Instruction: Indicate the full name of the facility where the procedure was performed.

Note(s):
Values should be full, official hospital names with no abbreviations or variations in spelling.

Target Value: N/A

Element: 1020 Time Frame of Data Submission

Coding Instruction: Indicate the time frame of data included in the data submission. Format: YYYYQQ. e.g.,2016Q1

Target Value: N/A

Element: 1040 Transmission Number

Coding Instruction: This is a unique number created, and automatically inserted by the software into export file. It identifies the number of times the software has created a data submission file. The transmission number should be incremented by one every time the data submission files are exported. The transmission number should never be repeated.

Target Value: N/A

Element: 1050 Vendor Identifier

Coding Instruction: Vendor identification (agreed upon by mutual selection between the vendor and the NCDR) to identify software vendor. This is entered into the schema automatically by vendor software. Vendors must use consistent name identification across sites. Changes to vendor name identification must be approved by the NCDR.

Target Value: N/A

Element: 1060 Vendor Software Version

Coding Instruction: Vendor's software product name and version number identifying the software which created this record (assigned by vendor). Vendor controls the value in this field. This is entered into the schema automatically by vendor software.

Target Value: N/A

Element: 1070 Registry Identifier

Coding Instruction: The NCDR registry identifier describes the data registry to which these records apply. It is implemented in the software at the time the data is collected and records are created. This is entered into the schema automatically by software.

Target Value: N/A

Element: 1071 Registry Schema Version

Coding Instruction: Schema version describes the version number of the Registry Transmission Document (RTD) schema to which each record conforms. It is an attribute that includes a constant value indicating the version of schema file. This is entered into the schema automatically by software.

Target Value: N/A

Element: 1085 Submission Type

Coding Instruction: Indicate if the data contained in the harvest/data file contains either standard patient episode of care records (arrival date to discharge only) or if it contains patient follow-up records.

A transmission file with all episode of care records (from Arrival to Discharge only) is considered a 'Base Registry Record'.

A file with patient follow-up records (any follow-up assessments performed during the quarter selected) is considered a 'Follow-Up Record'.

Note(s):
Selecting 'Follow-Up Records Only' will transmit all patient records with Follow-up Assessment Dates (Element Ref# 11000) contained in the selected timeframe, regardless of the procedure or discharge date. For example, if a patient has a procedure on 3/30/2017, is discharged on 3/31/2017, and has a follow-up assessment on 5/6/2017, the patient's episode of care data will be transmitted in the 2017Q1 Base Registry Record file, but the Follow-up data will be transmitted in the 2017Q2 Follow-Up File.

Section: Administration **Parent: Root**

Target Value: N/A

Submission Type

Selection	Definition	Source	Code	Code System
Episode of Care Records Only			1000142424	ACC NCDR

Element: 1090 Patient Population

Coding Instruction: Indicate the population of patients and procedures that are included in the data submission.

Target Value: N/A

Patient Population - 1.3.6.1.4.1.19376.1.4.1.6.5.241

Selection	Definition	Source	Code	Code System
All Procedures			100000930	ACC NCDR
No Dx Only			112000003604	ACC NCDR