OSHPD Office of Statewide Health **Planning and Development**

California CABG Outcomes Reporting Program (CCORP) Data Element Specifications

Version 7.1



May 5, 2019

- (1) Medical Record Number:
 - (A) Format: Alphanumeric, length 12
 - (B) Valid Values: Free text
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate the patient's medical record number at the hospital where surgery occurred.
- (2) Type of Coronary Artery Bypass Graft (CABG):
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Isolated CABG; 3 = CABG + Valve; 4= Other non-isolated CABG
 - (C) Category: Operative
 - (D) Definition/Description: Indicate the type of CABG.
 - (i) Type of CABG should be coded Isolated CABG if none of the procedures listed in this subsection was performed concurrently with the coronary artery bypass surgery.
 - (a) Valve repairs or replacements
 - (b) Operations on structures adjacent to heart valves (papillary muscle, chordae tendineae, traebeculae carneae cordis, annuloplasty, infundibulectomy
 - (c) Ventriculectomy when diagnosed preoperatively as a rupture, aneurysm or remodeling procedure. Excludes 1) sites intra-operatively diagnosed, 2) patch applications for site oozing discovered during surgery and 3) prophylactic patch applications to reduce chances of future rupture
 - (d) Repair of atrial and ventricular septa, excluding closure of patent foramen ovale
 - (e) Excision of aneurysm of heart
 - (f) Head and neck, intracranial endarterectomy
 - (g) Other open heart surgeries, such as aortic arch repair, pulmonary endarterectomy
 - (h) Endarterectomy of aorta
 - (i) Thoracic endarterectomy (endarterectomy on an artery outside the heart)
 - (j) Carotid endarterectomy
 - (k) Heart transplantation
 - Repair of certain congenital cardiac anomalies, excluding closure of patent foramen ovale (e.g., tetralology of fallot, atrial septal defect (ASD), ventricular septal defect (VSD), valvular abnormality)
 - (m) Any aortic aneurysm repair (abdominal or thoracic)
 - (n) Aorta-subclavian-carotid bypass
 - (o) Aorta-renal bypass
 - (p) Aorta-iliac-femoral bypass

- (q) Caval-pulmonary artery anastomosis
- (r) Extracranial-intracranial (EC-IC) vascular bypass
- (s) Coronary artery fistula
- (t) Resection of a lobe or segment of the lung (e.g., lobectomy or segmental resection of lung). Does not include simple biopsy of lung nodule in which surrounding lung is not resected, biopsy of a thoracic lymph node, or excision or stapling of an emphysematous bleb.
- (u) Pleural decortication
- (v) Mastectomy for breast cancer (not simple breast biopsy)
- (w) Amputation of any part of an extremity (e.g., foot or toe)
- (x) Resection of LV aneurysm
- (y) Ventricular Assist Devise (VAD) as bridge to transplant
- (z) Septal myectomy with hypertrophic obstructive cardiomyopathy
- (aa) Full open MAZE
- (ii) Type of CABG should be coded CABG + Valve if none of the procedures listed in this subsection were performed concurrently with a CABG that included aortic valve replacement (AVR), mitral valve replacement (MVR), mitral valve repair (MV repair), or AVR+MVR/MV repair.
 - (a) Pulmonic Valve Procedure
 - (b) Tricuspid Valve Procedure
 - (c) Ventriculectomy when diagnosed preoperatively as a rupture, aneurysm or remodeling procedure. Excludes 1) sites intra-operatively diagnose, 2) patch application for site oozing discovered during surgery, and 3) prophylactic patch applications to reduce chances of future rupture
 - (d) Repair of atrial and ventricular septa, excluding closure of patent foramen ovale
 - (e) Excision of aneurysm of heart
 - (f) Head and neck intracranial endarterectomy
 - (g) Other open heart surgeries such as aortic arch repair, pulmonary endarterectomy
 - (h) Endarterectomy of aorta
 - (i) Thoracic endarterectomy (endarterectomy on an artery outside the heart
 - (j) Carotid endarterectomy
 - (k) Resection of LV aneurysm
 - (I) Heart transplantation
 - (m) Repair of congenital cardiac anomalies such as tetraology of fallot, atrial septal defect (ASD), ventricular septal defect (VSD), or other complex anomaly
 - (n) Any aortic aneurysm repair (abdominal or thoracic)
 - (o) Repair of aortic dissection

- (p) Aorta-subclavian-carotid-bypass
- (q) Aorta-renal bypass
- (r) Aorta-iliac-femoral bypass
- (s) Caval-pulmonary artery anastomosis
- (t) Extracranial-intracranial (EC-IC) vascular bypass
- (u) Coronary artery fistula
- (v) Resection of a lobe or segment of the lung (e.g., lobectomy or segmental resection of lung). Does not include simple biopsy of lung nodule in which surrounding lung is not resected, biopsy of a thoracic lymph node or excision or stapling of an emphysematous bleb
- (w) Pleural Decortication
- (x) Mastectomy for breast cancer (not simple breast biopsy)
- (y) Amputation of any extremity (e.g., foot or toe)
- (z) Resection of LV aneurysm
- (aa) Ventricular Assist Devise (VAD) as a bridge to transplant
- (bb) Infundibulectomy
- (cc) Septal myectomy with hypertrophic obstructive cardiomyopathy
- (dd) Full Open MAZE for Aortic Valve cases only (epicardial MAZE procedures are not excluded and Full Open procedures are not excluded for Mitral Valve)
- (iii) Type of CABG should be coded Other Non-isolated CABG if case is not included in Isolated CABG or CABG + Valve
- (3) Date of Surgery:
 - (A) Format: Numeric, length 8
 - (B) Valid Values: mmddyyyy
 - (C) Category: Hospitalization
 - (D) Definition/Description: Indicate the date of index cardiac surgical procedure. Index cardiac surgical procedure is defined as the initial major cardiac surgical procedure of the hospitalization.
- (4) Date of Birth:
 - (A) Format: Numeric, length 8
 - (B) Valid Values: mmddyyyy
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate the patient's date of birth using 4-digit format for year.
- (5) Patient Age:
 - (A) Format: Numeric, length 3
 - (B) Valid Values: 18 110
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate the patient's age in years, at time of surgery.

This should be calculated from the date of birth and the date of surgery, according to the convention used in the USA (the number of birthdate anniversaries reached by the date of surgery).

- (6) Sex:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Male; 2 = Female
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate the patient's sex at birth as either male or female.
- (7) Race Documented:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Patient declined to disclose
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the race is documented.
- (8) Race White:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the patient's race, as determined by the patient or family, includes White. "White" refers to a person having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicated their race(s) as "White" or reported entries such as Irish, German, Italian, Lebanese, Arab, Moroccan, or Caucasian.
- (9) Race Black/African American:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the patient's race, as determined by the patient or family, includes Black / African American. "Black or African American" refers to a person having origins in any of the Black racial groups of Africa. It includes people who indicated their race(s) as "Black, African Am., or Negro" or reported entries such as African American, Kenyan, Nigerian, or Haitian.
- (10) Race Asian:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the patient's race, as determined by the patient or family, includes Asian. "Asian" refers to a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. It includes

people who indicated their race(s) as "Asian" or reported entries such as "Asian Indian", "Chinese", "Filipino", "Korean" Japanese", "Vietnamese", and "Other Asian" or provided other detailed Asian responses.

- (11) Race American Indian/Alaskan Native:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the patient's race, as determined by the patient or family, includes American Indian / Alaskan Native. "American Indian or Alaska Native" refers to a person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment. This category includes people who indicated their race(s) as "American Indian or Alaska Native" or reported their enrolled or principal tribe, such as Navajo, Blackfeet, Inupiat, Yup'ik, or Central American Indian groups or South American Indian groups.
- (12) Race Native Hawaiian/Pacific Islander:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the patient's race, as determined by the patient or family, includes Native Hawaiian / Pacific Islander. "Native Hawaiian or Other Pacific Islander" refers to a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicated their race(s) as "Pacific Islander" or reported entries such as "Native Hawaiian", "Guamanian or Chamorro", "Samoan", and "Other Pacific Islander" or provided other detailed Pacific Islander responses.
- (13) Race Other:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate whether the patient's race, as determined by the patient or family, includes any other race. "Some Other Race" includes all other responses not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories described above.
- (14) Hispanic or Latino or Spanish Ethnicity:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Not Documented
 - (C) Category: Demographics
 - (D) Definition/Description: Indicate if the patient is of Hispanic, Latino or Spanish ethnicity as reported by the patient / family. "Hispanic, Latino or Spanish" refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.

- (15) Date of Discharge:
 - (A) Format: Numeric, length 8
 - (B) Valid Values: mmddyyyy
 - (C) Category: Hospitalization
 - (D) Definition/Description: Indicate the date the patient was discharged from the hospital (acute care) even if the patient is going to a rehab or hospice or similar extended care unit within the same physical facility. If the patient died in the hospital, the discharge date is the date of death.
- (16) Discharge/Mortality Status:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = In hospital, alive; 2 = Died in hospital; 3=Discharged alive, last known status is alive; 4 = Discharged alive, died after discharge
 - (C) Category: Mortality
 - (D) Definition/Description: Indicate the discharge and current vital status of patient.
- (17) Mortality Date:
 - (A) Format: Numeric, length 8
 - (B) Valid Values: mmddyyyy
 - (C) Category: Mortality
 - (D) Definition/Description: Indicate the date the patient was declared dead.
- (18) Responsible Surgeon Name (3 separate fields):
 - (A) Format: Surgeon Last Name text length 25 (alpha) Surgeon First Name text length 20 (alpha) Surgeon Middle Initial text length 1(alpha)
 - (B) Valid Values: Free Text
 - (C) Category: Operative
 - (D) Definition/Description: The responsible surgeon is the surgeon as defined in Section 97170.
- (19) Responsible Surgeon CA License Number:
 - (A) Format: Alphanumeric, length 9
 - (B) Valid Values: Free text
 - (C) Category: Operative
 - (D) Definition/Description: California physician license number of responsible surgeon, assigned by the Medical Board of California of the Department of Consumer Affairs.
- (20) Height (cm):
 - (A) Format: Numeric, length 4
 - (B) Valid Values: 20.0-251.0 cm
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate height nearest to the date of surgery in centimeters.
- (21) Weight (kg):

- (A) Format: Numeric, length 4
- (B) Valid Values: 10.0 250.0 kg
- (C) Category: Risk Factors
- (D) Definition/Description: Indicate weight closest to the date of surgery in kilograms.
- (22) Diabetes:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3=Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: History of diabetes diagnosed and/or treated by a healthcare provider. The American Diabetes Association criteria include documentation of the following:
 - (i) A1c >=6.5%;
 - (ii) Fasting plasma glucose >=126 mg/dl (7.0 mmol/l);
 - (iii) Two-hour plasma glucose >=200 mg/dl (11.1 mmol/l) during an oral glucose tolerance test;
 - (iv) In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose >=200 mg/dl (11.1 mmol/l)
 - 1. This does not include gestational diabetes.
- (23) Diabetes Control:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = Diet only; 3 = Oral; 4 = Insulin; 5 = Other; 6= Other subcutaneous medication; 7 = Unknown
 - (C) Category: Risk Factors
 - (D) Definitions/Descriptions: Indicate the patient's control method as presented on admission. Patients placed on a preprocedure diabetic pathway of insulin drip at admission but whose diabetes was controlled by diet or oral method are not coded as being treated with insulin. Choose the most aggressive therapy from the order below
 - (i) Insulin: insulin treatment (includes any combination with insulin)
 - (ii) Other subcutaneous medications (e.g., GLP-1 agonist)
 - (iii) Oral: treatment with oral agent (includes oral agent with or without diet treatment)
 - (iv) Diet only: Treatment with diet only
 - (v) None: no treatment for diabetes
 - (vi) Other: other adjunctive treatment, non-oral/insulin/diet
 - (vii) Unknown
- (24) Dialysis:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors

- (D) Definition/Description: Indicate whether the patient is currently (prior to surgery) undergoing dialysis. Refers to whether the patient is currently on dialysis, not distant past history.
- (25) Hypertension:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate if the patient has a current diagnosis of hypertension defined by any one of the following:
 - (i) History of hypertension diagnosed and treated with medication, diet and/or exercise;
 - Prior documentation of blood pressure >140 mmHg systolic or 90 mmHg diastolic for patients without diabetes or chronic kidney disease, or prior documentation of blood pressure >130 mmHg systolic or 80 mmHg diastolic on at least 2 occasions for patients with diabetes or chronic kidney disease;
 - (iii) Currently undergoing pharmacologic therapy for treatment of hypertension.
- (26) Endocarditis:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Risk Factors
 - (D) Definition/Description: Endocarditis must meet the current CDC definition. Choose "Yes" for patients with pre-operative endocarditis who begin antibiotics post-op. Code "Yes" for patients who are diagnosed intraoperatively:
 - (i) Patient has organisms cultured from valve or vegetation;
 - (ii) Patient has 2 or more of the following signs or symptoms: fever (>38°C), new or changing murmur, embolic phenomena, skin manifestations (i.e., petechiae, splinter hemorrhages, painful subcutaneous nodules), congestive heart failure, or cardiac conduction abnormality with no other recognized cause and at least 1 of the following:
 - 1. Organisms cultured from 2 or more blood cultures
 - 2. Organisms seen on Gram's stain of valve when culture is negative or not done
 - 3. Valvular vegetation seen during an invasive procedure or autopsy
 - 4. Positive laboratory test on blood or urine (e.g., antigen tests for H influenzae, S pneumoniae, N meningitis, or Group B Streptococcus)
 - 5. Evidence of new vegetation seen on echocardiogram and if diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy.
- (27) Infectious Endocarditis Type:
 - (A) Format: Numeric, Length 1
 - (B) Valid Values: 1 = Treated; 2 = Active

- (C) Category: Risk Factors
- (D) Indicate the type of endocarditis the patient has. If the patient is currently being treated for endocarditis, the disease is considered active. If no antibiotic medication (other than prophylactic medication) is being given at the time of surgery and the cultures are negative, then the infection is considered treated.
- (28) Chronic Lung Disease:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = No; 2 = Mild; 3 = Moderate; 4 = Severe; 5= Lung disease documented, severity unknown; 6 = Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate whether the patient has chronic lung disease, and the severity level according to the following classification:
 - (i) No;
 - Mild: FEV1 60% to 75% of predicted, and/or on chronic inhaled or oral bronchodilator therapy;
 - (iii) Moderate: FEV1 50% to 59% of predicted, and/or on chronic oral/systemic steroid therapy aimed at lung disease;
 - (iv) Severe: FEV1 <50% and/or Room Air pO <60 or pCO2 > 50.
 - (v) Chronic Lung Disease present, severity not documented
 - (vi) Unknown
- (29) Liver Disease
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate whether the patient has a history of hepatitis B, hepatitis C, cirrhosis, portal hypertension, esophageal varices, chronic alcohol abuse or congestive hepatopathy. Exclude NASH in the absence of cirrhosis.
- (30) Immunocompromise:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate whether immunocompromise is present due to immunosuppressive medication therapy within 30 days preceding the operative procedure or existing medical condition (see training manual). This includes, but is not limited to, systemic steroid therapy, anti-rejection medications and chemotherapy. This does not include topical steroid applications, one time systemic therapy, inhaled steroid therapy or preoperative protocol.
- (31) Peripheral Arterial Disease:

- (A) Format: Numeric, length 1
- (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
- (C) Category: Risk Factors
- (D) Definition/Description: Indicate whether the patient has a history of peripheral arterial disease (includes upper and lower extremity, renal, mesenteric, and abdominal aortic systems). This can include:
 - (i) claudication, either with exertion or at rest;
 - (ii) amputation for arterial vascular insufficiency;
 - (iii) vascular reconstruction, bypass surgery, or percutaneous intervention to the extremities (excluding dialysis fistulas and vein stripping);
 - (iv) documented abdominal aortic aneurysm with or without repair;
 - (v) positive noninvasive test (e.g., ankle brachial index =< 0.9, ultrasound, magnetic resonance or computed tomography imaging of > 50% diameter stenosis in any peripheral artery, i.e., renal, subclavian, femoral, iliac) or angiographic imaging.

Peripheral arterial disease excludes disease in the carotid or cerebrovascular arteries or thoracic aorta. PVD does not include DVT

- (32) Cerebrovascular Disease:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate whether the patient has a current or previous history of any of the following:
 - (i) Stroke: Stroke is an acute episode of focal or global neurological dysfunction caused by brain, spinal cord, or retinal vascular injury as a result of hemorrhage or infarction, where the neurological dysfunction lasts for greater than 24 hours.
 - (ii) TIA: is defined as a transient episode of focal neurological dysfunction caused by brain, spinal cord, or retinal ischemia, without acute infarction, where the neurological dysfunction resolves within 24 hours.
 - (iii) Noninvasive or invasive arterial imaging test demonstrating >=50% stenosis of any of the major extracranial or intracranial vessels to the brain
 - (iv) 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 encephalopathy.
- (33) Prior CVA:
 - (A) Format: Numeric, length 1
 - (B) Valid Values:1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors

- (D) Definition/Description: Indicate whether the patient has a history of stroke. Stroke is an acute episode of focal or global neurological dysfunction caused by brain, spinal cord, or retinal vascular injury as a result of hemorrhage or infarction, where the neurological dysfunction lasts for greater than 24 hours.
- (34) Prior CVA When:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: $3 = \langle =30 \text{ days}; 4 = \rangle 30 \text{ days}$
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate when the CVA events occurred. Those events occurring within 30 days of the surgical procedure are considered recent, while all others are considered remote.
- (35) CVD TIA:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate whether the patient has a history of a Transient Ischemic Attack (TIA): Transient ischemic attack (TIA) is defined as a transient episode of focal neurological dysfunction caused by brain, spinal cord, or retinal ischemia, without acute infarction, where the neurological dysfunction resolves within 24 hours.
- (36) CVD Carotid Stenosis:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = Right; 3 = Left; 4 = Both; 5 = Not Documented
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate which carotid artery was determined from any diagnostic test to be >=50% stenotic.
- (37) CVD Carotid Stenosis Right:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = 50% to 79%; 1 = 80% to 99%; 2 = 100%; 4 = Not documented
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate the severity of stenosis reported on the right carotid artery.
- (38) CVD Carotid Stenosis Left:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = 50% to 79%; 1 = 80% to 99%; 2 = 100%; 4 = Not documented
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate the severity of stenosis reported on the left carotid artery.
- (39) CVD Prior Carotid Surgery:

- (A) Format: Numeric, length 1
- (B) Valid Values: 1 = Yes; 2 = No
- (C) Category: Risk Factors
- (D) Definition/Description: Indicate whether the patient has a history of previous carotid artery surgery and/or stenting.
- (40) Last Creatinine Level:
 - (A) Format: Numeric, length 4
 - (B) Valid Values: 0.10 30.00
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate the creatinine level closest to the date and time prior surgery but prior to anesthetic management (induction area or operating room).
- (41) Total Albumin:
 - (A) Format: Numeric, length 4
 - (B) Valid Values: 1.00 10.00
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate the total albumin closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).
- (42) Total Bilirubin:
 - (A) Format: Numeric, length 4
 - (B) Valid Values: 0.10 50.00
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate the total Bilirubin closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).
- (43) INR:
 - (A) Format: Numeric, length 4
 - (B) Valid Values: 0.50 30.00
 - (C) Category: Risk Factors
 - (D) Definition/Description: Indicate the International Normalized Ratio (INR) at the date and time closest to surgery but prior to anesthetic management (induction area or operating room).
- (44) Previous CABG:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Previous Cardiac Interventions
 - (D) Definition/Description: Indicate whether the patient had a previous Coronary Bypass Graft prior to the current admission.
- (45) Previous Valve:
 - (A) Format: Numeric, length 1

- (B) Valid Values: 1 = Yes; 2 = No
- (C) Category: Previous Cardiac Interventions
- (D) Definition/Description: Indicate whether the patient had a previous surgical replacement and/or surgical repair of a cardiac valve. This may also include percutaneous valve procedures.
- (46) Previous PCI:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Previous Cardiac Interventions
 - (D) Definition/Description: Indicate whether a previous Percutaneous Cardiac Intervention (PCI) was performed any time prior to this surgical procedure. Percutaneous Cardiac Intervention (PCI) is the placement of an angioplasty guide wire, balloon, or other devise (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.
- (47) Previous PCI Interval:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: $1 = \langle =6 \text{ Hours}; 2 = \rangle 6 \text{ Hours}$
 - (C) Category: Previous Cardiac Interventions
 - (D) Definition/Description: Indicate the interval of time between the previous PCI and the current surgical procedure.
- (48) Prior MI:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate if the patient has had at least one documented previous myocardial infarction at any time prior to this surgery.
- (49) MI When:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = <=6 Hrs.; 2 = >6 Hrs but <24 Hrs; 3 = 1 to 7 Days; 4 = 8 to 21 Days; 5 = >21 Days.
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate the time period between the last documented myocardial infarction and surgery.
- (50) Heart Failure:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate if there is physician documentation or report that the patient has been in a state of heart failure.
- (51) Heart Failure Timing:

- (A) Format: Numeric, length 1
- (B) Valid Values: 1 = Acute; 2 = Chronic; 3 = Both
- (C) Category: Preoperative Cardiac Status
- (D) Definition/Description: Indicate whether heart failure is acute, chronic or both (acute or chronic).
 - (i) Acute: New onset or worsening heart failure within 2 weeks prior to this procedure.
 - (ii) Chronic: More that 2 weeks prior to this procedure.
 - (iii) Both: Worsening heart failure with 2 weeks prior to this procedure.
- (52) Classification NYHA:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Class I; 2 = Class II; 3 = Class III; 4 = Class IV
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate the patient's worst dyspnea or functional class, coded as the New York Heart Association (NYHA) classification within the past 2 weeks. This is to be used for heart failure only, it is not intended to classify angina.
 - (i) Class I: Patient has cardiac disease but without resulting limitations of ordinary physical activity. Ordinary physical activity (e.g., walking several blocks or climbing stairs) does not cause undue fatigue, palpitation, or dyspnea.
 - (ii) Class II: Patient has cardiac disease resulting in slight limitation of ordinary physical activity. Patient is comfortable at rest. Ordinary physical activity such as walking more than two blocks or climbing more than one flight of stairs results in limiting symptoms (e.g., fatigue, palpitation, or dyspnea).
 - (iii) Class III: Patient has cardiac disease resulting in marked limitation of physical activity. Patient is comfortable at rest. Less than ordinary physical activity (e.g., walking one to two level blocks or climbing one flight of stairs) causes fatigue, palpitation, or dyspnea.
 - (iv) Class IV: Patient has cardiac disease resulting in inability to perform any physical activity without discomfort. Symptoms may be present even at rest or minimal exertion. If any physical activity is undertaken, discomfort is increased.
- (53) Cardiogenic Shock:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, at the time of the procedure; 4 = Yes, not at the time of the procedure, but within prior 24 hours; 2 = No
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate if the patient developed cardiogenic shock. Cardiogenic shock is defined as a sustained (>30 min) episode of hypoperfusion evidenced by systolic blood pressure <90 mm Hg and/or, if available, cardiac index <2.2 L/min per square meter determined to be</p>

secondary to cardiac dysfunction and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, VADs) to maintain blood pressure and cardiac index above those specified levels. 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.

- (54) Resuscitation:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, within 1 hour of the start of the procedure; 4 = Yes, more than 1 hour but less than 24 hours of the start of the procedure; 2 = No
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether the patient required cardiopulmonary resuscitation before the start of the operative procedure which includes the institution of anesthetic management. Capture resuscitation timeframe: within 1 hour or 1-24 hours pre-op.
- (55) Cardiac Arrhythmia:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether the patient has a history of a cardiac rhythm disturbance before the start of the operative procedure which includes the institution of anesthetic management.
- (56) Cardiac Arrhythmia VTach/VFib:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = Remote (more than 30 days prior to procedure); 3 = Recent (within 30 days prior to procedure)
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether arrhythmia was VTach or VFib
- (57) Cardiac Arrhythmia Aflutter:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = Remote (more than 30 days prior to procedure); 3 = Recent (within 30 days prior to procedure)
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether arrhythmia was atrial flutter.
- (58) Cardiac Arrhythmia Third Degree Heart Block:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = Remote (more than 30 days prior to procedure); 3 = Recent (within 30 days prior to procedure)
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether arrhythmia was third degree heart

block.

- (59) Cardiac Arrhythmia Atrial fibrillation:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1= None; 2= Remote (>30 days); 3= Recent (<30days)
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether arrhythmia was atrial fibrillation.
- (60) Cardiac Arrhythmia Atrial fibrillation Type:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 2 = Paroxysmal; 4 = Persistent; 5 = Longstanding Persistent; 6 = Permanent
 - (C) Category: Preoperative Cardiac Status
 - (D) Definition/Description: Indicate whether arrhythmia was atrial fibrillation and if so, which type.
- (61) Warfarin Use (within 5 days):
 - (A) Format: Numeric, Length 1
 - (B) Valid Values: 1 = Yes; 2 = No; 3 = Unknown
 - (C) Category: Preoperative Medications
 - (D) Definition/Description: Indicate whether the patient received warfarin (Coumadin) within 5 days preceding surgery.
- (62) Coronary Anatomy/Disease Known:
 - (A) Format: Numeric, Length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate whether coronary artery anatomy and/or disease is documented and available prior to surgery.
- (63) Number of Diseased Vessels:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = One; 3 = Two; 4 = Three
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate the number of diseased major native coronary vessel systems: LAD system, Circumflex system, and/or Right system with >= 50% narrowing of any vessel preoperatively.
 - (i) NOTE: Left main disease (>=50%) is counted as TWO vessels (LAD and Circumflex, which may include a Ramus Intermedius). For example, left main and RCA would count as three total. A vessel that has ever been considered diseased should always be considered diseased.
- (64) Percent Native Artery Stenosis Known:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Hemodynamics / Cath / Echo

- (D) Definition/Description: Indicate whether the percent stenosis of native coronary stenosis is known.
- (65) Percent Stenosis Left Main:
 - (A) Format: Numeric, length 3
 - (B) Valid Values: 0 100
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate the highest percent stenosis in this vessel at the time of surgery.
- (66) Ejection Fraction Done:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate whether the Ejection Fraction was measured prior to the induction of anesthesia.
- (67) Ejection Fraction (%):
 - (A) Format: Numeric, length 3
 - (B) Valid Values: 1.0 99.0
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate the percentage of the blood emptied from the left ventricle at the end of the contraction. Use the most recent determination prior to the surgical intervention documented on a diagnostic report.
 - (i) Enter a percentage in the range of 1 99. If a percentage range is reported, report a whole number using the "mean" (i.e., 50-55%, is reported as 53%). Values reported as:
 - 1. Hyperdynamic: > 70%
 - 2. Normal: 50% -70% (midpoint 60%)
 - 3. Mild dysfunction: 40% 49% (midpoint 45%)
 - 4. Moderate dysfunction: 30% -39% (midpoint 35%)
 - 5. Severe dysfunction: <30%
 - a. NOTE: If no diagnostic report is in the medical record, a value documented in the progress record is acceptable.
- (68) PA Systolic Pressure Measured:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate whether the PA systolic pressure was measured prior to induction.
- (69) PA Systolic Pressure:
 - (A) Format: Numeric, length 4
 - (B) Valid Values: 10.0 150.0

- (C) Category: Hemodynamics / Cath / Echo
- (D) Definition/Description: Capture the highest PA systolic pressure recorded prior to induction.
- (70) Insufficiency Mitral:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 0 = None; 1 = Trivial/Trace; 2 = Mild; 3 = Moderate; 4 = Severe; 5 = Not documented
 - (C) Category: Hemodynamics / Cath / Echo
 - (D) Definition/Description: Indicate whether there is evidence of Mitral valve insufficiency/regurgitation. Enter degree of insufficiency reported closest to induction and no more than 6 months prior to surgery.
 - (i) Enter the highest level recorded in the chart. "Moderately severe" should be coded as "Severe".
- (71) Incidence:
 - (A) Format: Numeric, length 1
 - (B) Valid Values:1 = First cardiovascular surgery; 2 = First re-op cardiovascular surgery; 3 = Second re-op cardiovascular surgery; 4 = Third re-op cardiovascular surgery; 5 = Fourth or more re-op cardiovascular surgery
 - (C) Category: Operative
 - (D) Definition/Description: Indicate if this is the patient's:
 - (i) First surgery;
 - (ii) First re-op surgery;
 - (iii) Second re-op surgery;
 - (iv) Third re-op surgery;
 - (v) Fourth or more re-op surgery
 - Surgery is defined as cardiothoracic operations (heart or great vessels) surgical procedures performed with or without cardiopulmonary bypass (CPB). Also include lung procedures utilizing CPB or tracheal procedures utilizing CPB. Reoperation increases risk due to the presence of scar tissue and adhesions.
- (72) Status:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Elective; 2 = Urgent; 3 = Emergent; 4 = Emergent Salvage
 - (C) Category: Operative
 - (D) Definition/Description: Indicate the clinical status of the patient prior to entering the operating room:
 - Elective: The patient's cardiac function has been stable in the days or weeks prior to the operation. The procedure could be deferred without increased risk of compromised cardiac outcome.
 - (ii) Urgent: Procedure required during same hospitalization in order to minimize chance of further clinical deterioration. Examples include but

are not limited to: Worsening, sudden chest pain, CHF, acute myocardial infarction (AMI), anatomy, IABP, unstable angina (USA) with intravenous (IV) nitroglycerin (NTG) or rest angina.

- (iii) Emergent: Patients requiring emergency operations will have ongoing, refractory (difficult, complicated, and/or unmanageable) unrelenting cardiac compromise, with or without hemodynamic instability, and not responsive to any form of therapy except cardiac surgery. An emergency operation is one in which there should be no delay in providing operative intervention.
- (iv) Emergent Salvage: The patient is undergoing CPR en route to the OR or prior to anesthesia induction or has ongoing ECMO to maintain life.
- (73) Urgent Or Emergent Reason:
 - (A) Format: Numeric, length 2
 - (B) Valid Values: 1 = AMI; 2 = Anatomy; 3 = Aortic Aneurysm; 4 = Aortic Dissection; 5 = CHF; 6 = Device Failure; 7 = Diagnostic/Interventional Procedure Complication; 8 = Endocarditis; 10 = IABP; 11 = Infected Device; 12 = Intracardiac mass or thrombus; 13 = Ongoing Ischemia; 14 = PCI Incomplete without Clinical Deterioration; 15 = PCI or attempted PCI with Clinical Deterioration; 16 = Pulmonary Edema; 17 = Pulmonary Embolus; 18= Rest Angina; 19 = Shock Circulatory Support; 20 = Shock No Circulatory Support; 21 = Syncope; 22 = Transplant; 23 = Trauma; 24 = USA; 25 = Valve Dysfunction; 26 = Worsening CP; 27 = Other; 28 = Failed Transcatheter Valve Therapy – Acute, annular disruption; 29 = Failed Transcatheter Valve Therapy – Acute, device malposition; 30 = Failed Transcatheter Valve Therapy – Subacute, device dysfunction
 - (C) Category: Operative
 - (D) Definition/Description: Choose one reason from the list in (72)(B) above that best describes why this operation was considered urgent or emergent.
- (74) CPB Utilization:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = None; 2 = Combination; 3 = Full
 - (C) Category: Operative
 - (D) Definition/Description: Indicate the level of CPB or coronary perfusion used during the procedure:
 - (i) None: No CPB or coronary perfusion used during the procedure.
 - (ii) Combination: With or without CPB and/or with or without coronary perfusion at any time during the procedure (capture conversions from off-pump to on-pump only):
 - At start of procedure: No CPB/No Coronary Perfusion -> conversion to -> CPB,
 - 2. At start of procedure: No CPB/No Coronary Perfusion -> conversion to -> Coronary perfusion, or
 - 3. At start of procedure: No CPB/No Coronary Perfusion -> conversion to -> Coronary perfusion -> conversion to -> CPB.

(iii) Full: CPB or coronary perfusion was used for the entire procedure.

- (75) CPB Utilization-Combination Plan:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Planned; 2 = Unplanned
 - (C) Category: Operative
 - (D) Definition/Description: Indicate whether the combination procedure from offpump to on-pump was a planned or an unplanned conversion.
 - (i) Planned: The surgeon intended to treat with any of the combination options described in "CPB utilization".
 - (ii) Unplanned: The surgeon did not intend to treat with any of the combination options described in "CPB utilization".
- (76) IMA Artery Used:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Coronary Bypass
 - (D) Definition/Description: Indicate whether an internal mammary artery conduit was used.
- (77) Reason for No IMA:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 2 = Subclavian Stenosis; 3 = Previous cardiac or thoracic surgery; 4 = Previous mediastinal radiation; 5 = Emergent or salvage procedure; 6 = No LAD disease (includes LAD with no bypassable disease); 7 = Other
 - (C) Category: Coronary Bypass
 - (D) Definition/Description: Indicate the primary reason from (76)(B) above that Internal Mammary Artery was not used as documented in the medical record:
- (78) Valve:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Operative
 - (D) Definition/Description: Indicate whether a surgical procedure was done on the Aortic, Mitral, Tricuspid or Pulmonic valves.
- (79) Aortic Valve:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, planned; 4 = Yes, unplanned due to surgical complication; 5 = Yes, unplanned due to unsuspected disease or anatomy; 2 = No
 - (C) Category: Valve Surgery
 - (D) Definition/Description: Indicate whether an aortic valve procedure was performed.
- (80) Aortic Valve Procedure:

- (A) Format: Numeric, length 1
- (B) Valid Values: 1 = Replacement; 2 = Repair/Reconstruction
- (C) Category: Valve Surgery
- (D) Definition/Description: Indicate procedure performed on aortic valve and/or ascending aorta.
- (81) Mitral Valve:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, planned; 4 = Yes, unplanned due to surgical complication; 5 = Yes, unplanned due to unsuspected disease or anatomy; 2 = No
 - (C) Category: Valve Surgery
 - (D) Definition/Description: Indicate whether a mitral valve procedure was performed.
- (82) Mitral Valve Procedure:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Repair; 2 = Replacement
 - (C) Category: Valve Surgery
 - (D) Definition/Description: Indicate the type of procedure that was performed on the mitral valve
- (83) Tricuspid Valve:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, planned; 4 = Yes, unplanned due to surgical complication; 5 = Yes, unplanned due to unsuspected disease or anatomy; 2 = No
 - (C) Category: Valve Surgery
 - (D) Definition/Description: Indicate whether a surgical procedure was done or not done on the Tricuspid Valve.
- (84) Pulmonic Valve:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, planned; 4 = Yes, unplanned due to surgical complication; 5 = Yes, unplanned due to unsuspected disease or anatomy; 2 = No
 - (C) Category: Valve Surgery
 - (D) Definition/Description: Indicate whether a surgical procedure was done or not done on the Pulmonic Valve.
- (85) Reoperation for Bleed:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether the patient was reexplored for mediastinal bleeding with or without tamponade either in the ICU or returned

to the operating room.

- (86) Reintervention Myocardial Ischemia:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether the patient required postoperative reintervention for Myocardial Ischemia.
- (87) Reintervention Myocardial Ischemia Vessel:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Native Coronary; 2 = Graft; 3 = Both
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate the type of vessels that required postoperative reintervention for Myocardial Ischemia.
- (88) Deep Sternal Infection/Mediastinitis:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 3 = Yes, within 30 days of procedure; 4 = Yes, >30 days after procedure but during hospitalization for surgery; 2 = No
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether a Deep Sternal Wound Infection or Mediastinitis occurred within 30 days following the surgery.
- (89) Neuro Stroke Permanent:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 2 = No; 3 = Yes, hemorrhagic; 4 = Yes, ischemic; 5 = Yes, undetermined type
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether the patient has a postoperative stroke and the type of stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours.
- (90) Pulm Ventilation Prolonged:
 - (A) Format: Numeric, length 1
 - (B) Valid Values:1 = Yes; 2 = No
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether the patient had prolonged pulmonary ventilator > 24 hours. The hours of postoperative ventilation time include OR exit until extubation, plus any additional hours following reintubation. Include (but not limited to) causes such as ARDS, pulmonary edema, and/or any patient requiring mechanical ventilation > 24 hours postoperatively.
- (91) Renal Renal Failure:
 - (A) Format: Numeric, length 1
 - (B) Valid Values: 1 = Yes; 2 = No

- (C) Category: Postoperative Events
- (D) Definition/Description: Indicate whether the patient had acute renal failure or worsening renal function resulting in ONE OR BOTH of the following:
 - Increase of serum creatinine level 3.0 X greater than baseline, or serum creatinine level >=4.0 mg/dl, Acute rise must be at least 0.5 mg/dl.
 - (ii) A new requirement for dialysis postoperatively.
- (92) Renal Dialysis Requirement:
 - (A) Format: Numeric, length 1
 - (B) Valid Values:1 = Yes; 2 = No
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether the patient had a new requirement for dialysis postoperatively, which may include hemodialysis, peritoneal dialysis.
- (93) Other A Fib:
 - (A) Format: Numeric, length 1
 - (B) Valid Values:1 = Yes; 2 = No
 - (C) Category: Postoperative Events
 - (D) Definition/Description: Indicate whether the patient experienced atrial fibrillation/flutter (AF) requiring treatment. Exclude patients who were in afib at the start of surgery.
- (94) Facility Identification Number:
 - (A) Format: Numeric, length 6
 - (B) Valid Values: Free Text
 - (C) Category: Hospitalization
 - D) Definition/Description: The six-digit facility identification number assigned by the Office, as defined in Section 97170.