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December 2013 – General Information - Addendums may be added to the medical record within 30 days to be consistent with CMS.				
A. ADMINISTRATIVE **This section is intended to define organizational fields to maintain record integrity for data submitted using STS approved vendor software.**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
40	ParticID	Participant ID is a unique number assigned to each database participant by the STS. A database participant is defined as one entity that signs a Participation Agreement with the STS, submits one data file to the harvest, and gets back one report on their data. The participant ID must be entered into each record.	Each participant's data, if submitted to harvest, must be in one data file. If one participant keeps data in more than one file (e.g. at two sites), the participant must combine them back into one file for harvest submission. If two or more participants share single purchased software and enter cases into one database, the data must be extracted into two different files, one for each participant ID, with each record having the correct participant ID number.	Assigned value, automatically inserted by vendor software.
50	RecordID	An arbitrary, unique number that permanently identifies each record in the participant's database (note that unlike the PatID value, this does not identify the individual patient). Once assigned to a record, this number can never be changed or reused.	The value by itself can be used to identify the record in the participant's database. When used in conjunction with the ParticID value, the number can identify the record in the data warehouse database. The data warehouse will use this value to communicate issues about individual records with the participant. This value may also be used at the warehouse to link to other clinical data.	Unique permanent value for each record, generated automatically by vendor software.
60	CostLink	A participant specified alpha-numeric code that can be used to link this record's clinical data with the participant's cost information for this patient admission.	This information may be used in the future to perform procedure cost analysis (for which the actual cost data would have to be harvested separately). The value in this field must not be the patient's Medical Record Number, Social Security Number or any other patient identifying value.	
80	PatID	This is an arbitrary number (not a recognizable ID like SSN or Medical Record Number) that uniquely and permanently identifies each patient.	Once assigned to a patient, this number can never be changed or reused. If a patient is admitted to the hospital more than once, each record for that patient will have the same value in this field.	Unique arbitrary permanent value for each patient, generated automatically by vendor software.

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B. DEMOGRAPHICS

The intent of this section is to collect patient specific data in accordance with state & local regulations. This will assist with long term follow up and data linkage. Unique patient identifiers are stripped from clinical data and stored separately at the data warehouse in accordance with HIPAA regulations.

SeqNo	ShortName	Data Field Intent	Field Name Clarification	Source Document
90	PatLName	Indicate the patient's last name documented in the medical record.		Demographic sheet Face sheet Hospital admission form
100	PatFName	Indicate the patient's first name documented in the medical record.		Demographic sheet Face sheet Hospital admission form
120	PatMName	Middle name or initial as documented in medical record	Enter middle name, middle initial or leave blank if no middle initial	Demographic sheet Face sheet Hospital admission form
130	DOB	Indicate the patient's date of birth using 4-digit format for year.		Demographic sheet Face sheet Hospital admission form
140	Age	Calculated value based on DOB and surgery date	If age is less than 18, the data record will be accepted into the database, but will not be included in the national analysis and report.	Vendor's software calculates
150	Gender	Indicate the patient's sex at birth as either male or female.	Patients who have undergone gender reassignment surgery maintain the risk associated with their chromosomal gender.	Demographic sheet Face sheet Hospital admission form
160	SSN	Unique patient identifier assigned by government	Although this is the Social Security Number in the USA, other countries may have a different National Patient Identifier Number. For example in Canada, this would be the Social Insurance Number. The Social Security Number is crucial to provide linkage for long term follow up and every attempt should be made to collect it.	Demographic sheet Face sheet Hospital admission form
October 2011	Why is this collected? Can we enter only the last four digits? Our site will not allow this to be collected.		The entire SS# is needed to link the record with the Social Security Death Master File for long term follow-up. Comparing CABG outcomes to PCI at 30 days is informative, but patients and other stakeholders want to know long term outcomes. Follow your state and local regulations for collecting this field.	
170	MedRecN	Indicate the patient's medical record number at the hospital where surgery occurred. This fieldshould be collected in compliance with state/local privacy laws.		Demographic sheet Face sheet Hospital admission form

180	PatAddr	Indicate the street address at which the patient is staying at time of admission. This field should be collected in compliance with state/local privacy laws.	This may be a hotel or relative's home if the patient is not a local resident. This will track referrals and assist with follow-up	Demographic sheet Face sheet Hospital admission form
190	PatCity	Indicate the city in which the patient is staying at time of admission. This field should be collected in compliance with state/local privacy laws.		Demographic sheet Face sheet Hospital admission form
200	PatRegion	Indicate the region of the country (i.e., state or province) in which the patient is staying at time of admission.		Demographic sheet Face sheet Hospital admission form
210	PatZIP	Indicate the ZIP Code, outside the USA, this data may be known by other names such as Postal Code (needing 6 characters). Software should allow sites to collect at least up to 10 characters to allow for Zip+4 values. This field should be collected in compliance with state/local privacy laws.		Demographic sheet Face sheet Hospital admission form
220	PatCountry	Indicate the patient's country. This field should be collected in compliance with state/local privacy laws.	List of countries provided by the United Nations Statistics Division, 15 April 2009 which is the following URL: (http://unstats.un.org/unsd/methods/m49/m49alpha.htm)	Demographic sheet Face sheet Hospital admission form
230	PermAddr	Indicate whether the patient considers the given address to be their permanent address.	Will allow tracking of referrals and assist with follow-up.	Demographic sheet Face sheet Hospital admission form
October 2011	Why is the patient's permanent address collected? October 2011		The intent is to identify patients who travel outside their local area for treatment. CMS is tracking disparities in health care delivery and looking at underserved areas. This also assists with long term follow up locally.	
October 2011	Can I use a P.O. box if that is all I have?		Yes.	

240	PatPermAddr	Indicate the street address at which the patient permanently resides at time of admission.		Demographic sheet Face sheet Hospital admission form
250	PatPermCity	Indicate the city in which the patient permanently resides at time of admission.		Demographic sheet Face sheet Hospital admission form
260	PatPermRegion	Indicate the region of the country (i.e., state or province) in which the patient permanently resides at time of admission.		Demographic sheet Face sheet Hospital admission form
270	PatPermZip	Indicate the ZIP Code of the patient's permanent residence. Outside the USA, this data may be known by other names such as Postal Code (needing 6 characters). Software should allow sites to collect at least up to 10 characters to allow for Zip+4 values.		Demographic sheet Face sheet Hospital admission form
280	PatPermCountry	Indicate the patient's country of permanent residence at time of admission.		Demographic sheet Face sheet Hospital admission form
290	RaceCaucasian	Indicate the patient's race, as reported by the patient or family, includes White.	The Census Bureau collects race data in accordance with guidelines provided by the U.S. Office of Management and Budget and these data are based on **self-identification.** The racial categories included in the census form generally reflect a social definition of race recognized in this country, and are not an attempt to define race biologically, anthropologically or genetically. In addition, it is recognized that the categories of the race item include racial and national origin or socio-cultural groups. People may choose to report more than one race to indicate their racial mixture, such as "American Indian and White." People who identify their origin (ETHNICITY) as Hispanic, Latino or Spanish may be of any race. In addition, it is recognized that the categories of the race item include both racial and national origin and socio-cultural groups. You may choose more than one race category. Source: http://2010.census.gov/partners/pdf/ConstituentFAQ.pdf	Demographic sheet Face sheet History & Physical Hospital admission form

300	RaceBlack	Indicate whether the patient's race, as determined by the patient or family, includes Black/African American.	This includes a person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American." Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity: The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. Reference: www.whitehouse.gov/omb/fedreg/1997standards.html	Demographic sheet Face sheet History & Physical Hospital admission form
310	RaceAsian	Indicate whether the patient's race, as determined by the patient or family, includes Asian.	This includes 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. Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity: The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. Reference: www.whitehouse.gov/omb/fedreg/1997standards.html	Demographic sheet Face sheet History & Physical Hospital admission form
320	RaceNativeAm	Indicate whether the patient's race, as determined by the patient or family, includes Native American.	Includes all in North American native peoples such as American Indian/Alaskan Native, Inuit.	Demographic sheet Face sheet History & Physical Hospital admission form
330	RacNativePacific	Indicate whether the patient's race, as determined by the patient or family, includes Native Hawaiian/Pacific Islander.	This includes a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity: The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. Reference: www.whitehouse.gov/omb/fedreg/1997standards.html	Demographic sheet Face sheet History & Physical Hospital admission form
340	RaceOther	Indicate whether the patient's race, as determined by the patient or family, includes any other race.		Demographic sheet Face sheet History & Physical Hospital admission form
350	Ethnicity	Indicate if the patient is of Hispanic, Latino or Spanish ethnicity as reported by the patient/family.	Hispanic, Latino or Spanish ethnicity includes patient report of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, **regardless of race**. People who identify their origin as Hispanic, Latino or Spanish may be of any race.	Demographic sheet Face sheet History & Physical Hospital admission form
360	RefCard	Indicate the referring cardiologist's name.	User maintains list of valid values. New values are made available through a utility that is separate from entering a data record.	Consultation note ED physician notes History & Physical

370	RefPhys	Indicate the referring physician's name.	User maintains list of valid values. New values are made available through a utility that is separate from entering a data record.	Consultation note ED physician notes History & Physical

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C. HOSPITALIZATION **The intent of this section is to collect reimbursement information and capture relevant dates for this episode of care.**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
380	HospName	Indicate the full name of the facility where the procedure was performed.	Values should be full, official hospital names with no abbreviations or variations in spelling for a single hospital. Values should also be in mixed-case. User maintains list of valid values. New values are made available through a utility that is separate from entering a data record.	Demographic sheet Face sheet Hospital admission form
390	HospZIP	Indicate the ZIP Code of the hospital. Outside the USA, these data may be known by other names such as Postal Code (needing 6 characters).	Software should allow sites to collect up to 10 characters to allow for Zip+4 values. This field should be collected in compliance with state/local privacy laws.	Demographic sheet Face sheet Hospital admission form
400	HospStat	Indicate the abbreviation of the state or province in which the hospital is located.		Demographic sheet Face sheet Hospital admission form
410	HospNPI	Indicate the hospital's National Provider Identifier (NPI).	This number, assigned by the Center for Medicare and Medicaid Services (CMS), is used to uniquely identify facilities for Medicare billing purposes. **This is different from the surgeon NPI.**	Hospital billing department Quality assurance department
May 2012	Why is this collected and why is my file rejected when the numbers don't match?		STS/DCRI maintains a list of Hospital NPIs associated with Participation Agreements. Data files that include other hospitals cannot be processed. Please update all information.	
420	PayorGov	Indicate whether government insurance was used by the patient to pay for part or all of this admission.	Government insurance refers to patients who are covered by government-reimbursed care. This includes Medicare, Medicaid, Military Health Care (e.g. TriCare), State-Specific Plan, and Indian Health Service. CHIP (Children's Health Insurance Plan), High Risk Pools Local Government Health Insurance Plan (LGHIP), state or federal prisoners	Demographic sheet Face sheet Hospital admission form
Aug 2012	How do I code Blue Cross Federal Government?		Code this as Commercial insurance The Blue Cross and Blue Shield Government-wide Service Benefit Plan has been part of the Federal Employees Health Benefits Program (FEHBP) since its inception in 1960. FEP covers over 5.2 million federal employees, retirees and their families out of the more than 8 million people (contract holders as well as their dependents) who receive their benefits through FEHBP	

October 2011	If the patient is covered by a Medicare product managed by a commercial plan, do we still code PayorGovMcare?		Code both, Medicare & Commercial insurance	
July 2011	If insurance is a Medicare product managed by a commercial HMO plan do we code PayorGov as yes?		Yes	
430	PayorGovMcare	Indicate whether the government insurance used by the patient to pay for part or all of this admission included Medicare.		Demographic sheet Face sheet Hospital admission form
440	HICNumber	Indicate the Health Insurance Claim (HIC) number of the primary beneficiary. This is a 10 or 11-digit number that uniquely identifies an individual for a claim.	Enter this number even if not currently participating in PQRS, CMS will be moving to pay for performance based on outcomes data and looking at comparative outcomes and value for Medicare patients.	Demographic sheet Face sheet Hospital admission form
450	PayorGov McareFFS	Indicate whether patient is covered by Medicare Fee for Service, also called Medicare Part B	This is used for PQRS and must be answered **yes** and the case must also be entered in the Quality Module. Check with your hospital billing department if you are unsure whether the patient is considered Medicare Part B. Even if not using the registry for PQRS, CMS will be tracking outcomes for value based purchasing.	Demographic sheet Face sheet Hospital admission form
460	PayorGovMcaid	Indicate whether the government insurance used by the patient to pay for part or all of this admission included Medicaid.		Demographic sheet Face sheet Hospital admission form
470	PayorGovMil	Indicate whether the government insurance used by the patient to pay for part or all of this admission included Military Health Care.	Examples of payers for Military Health Care would be TriCare, Champus, Department of Defense or Department of Veterans Affairs.	Demographic sheet Face sheet Hospital admission form
480	PayorGov State	Indicate whether the government insurance used by the patient to pay for part or all of this admission included State-Specific Plan.		Demographic sheet Face sheet Hospital admission form
490	PayorGovIHS	Indicate whether the government insurance used by the patient to pay for part or all of this admission included Indian Health Service.		Demographic sheet Face sheet Hospital admission form

500	PayorGovCor	Indicate whether the government insurance used to pay for part or all of this admission included a state or federal correctional facility		Demographic sheet Face sheet Hospital admission form
510	PayorCom	Indicate whether commercial insurance was used by the patient to pay for part or all of this admission.	Commercial insurance refers to all indemnity (fee-for-service) carriers and Preferred Provider Organizations (PPOs), (e.g., Blue Cross and Blue Shield). Workman's compensation is considered commercial insurance.	Demographic sheet Face sheet Hospital admission form
520	PayorHMO	Indicate whether Health Maintenance Organization (HMO) insurance was used by the patient to pay for part or all of this admission.	HMO refers to a Health Maintenance Organization characterized by coverage that provides health care services for members on a pre-paid basis.	Demographic sheet Face sheet Hospital admission form
530	PayorNonUS	Indicate whether any non-U.S. insurance was used by the patient to pay for part or all of this admission.		Demographic sheet Face sheet Hospital admission form
540	PayorNS	Indicate whether no insurance was used by the patient to pay for this admission.	None refers to individuals with no or limited health insurance; thus, the individual is the payer regardless of ability to pay. Only mark "None" when "self" or "none" is denoted as the first insurance in the medical record.	Demographic sheet Face sheet Hospital admission form
550	ArrivalDt	Indicate the date the patient arrived at your facility. This will generally be the same as admission time in elective cases.	This applies to arrival in ED or outpatient areas, such as cath lab, that preceded admission for surgery during the same episode of care. Example: A patient comes in for an elective cath, has critical disease, and then gets admitted for surgery.	Demographic sheet Face sheet Hospital admission form
October 2011	If the patient was admitted to another hospital 2 days prior and then transferred to my hospital, which data do I code?		Code the dates for your facility.	
560	ArrivalTm	Indicate the time the patient arrived at your facility.	If the patient came for an outpatient or elective procedure and the time was not documented, enter the scheduled time of arrival.	Demographic sheet Face sheet Hospital admission form
October 2011	What source should be used if different times appear in different source documents?		Use what is most reliable at your facility and use it consistently.	
570	AdmitDt	Indicate the Date of Admission.	For those patients who originally enter the hospital in an out-patient capacity (i.e., catheterization), the admit date is the date the patient's status changes to in-patient. The arrival date and admission date would be the same for patients directly admitted for surgery.	Demographic sheet Face sheet Hospital admission form

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October 2011	Explain the difference between arrival and admission		Arrival is the time the patient comes to your facility. ER visits or outpatient diagnostic tests are not considered inpatient admissions but the patient may to be changed to inpatient status for surgery. The Admit date is when the patient becomes an inpatient at your facility	
580	AdmitSrc	Indicate the source of admission for this patient to your facility	Choose elective admission, through the ED, Transferred in from another acute care facility or 'other' which includes transfers from non- acute care facilities such as nursing homes.	Hospital admission form
October 2011	If a patient is admitted for an elective cath and then held over for surgery- elective or urgent, how is the admission source coded?		This is an elective admission, however the surgery status could be coded urgent based on the cath findings.	
590	OthHosCS	The transferring hospital or medical care facility has the necessary personnel and facilities to perform cardiac surgery.	The intent is to capture patients whose acuity requires a higher level of care or more complex procedure than can be provided at transferring facility, such as transplant. The goal is to identify high acuity patients and does not reflect negatively on the referring hospital. Code “yes” if the transferring hospital performs heart surgery, even if it is not the type of surgery the patient is being transferred for such as transplant or VAD.	Hospital admission form
610	SurgDt	Indicate the date of surgery.	The date the patient enters the operating room for surgery.	Hospital admission form Operative report
620	DischDt	Indicate the date the patient was discharged from the hospital (acute care).	The date the patient leaves the acute care facility 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. Do not include transfers to other services, such as renal care unit.	Discharge Summary Face sheet Hospital admission form Nurses notes
July 2013	The patient is pronounced dead on 3/13/2013 but is not discharged until 3/16/2013 when One Legacy comes to harvest organs. How do you code discharge date, ICU hours and mortality date?		Use the date and time on the death certificate (when the patient was pronounced dead).	

D. RISK FACTORS

The intent of this section is to capture preoperative factors that may impact outcomes. Risk models are developed using some of these fields and may include more of these fields as the data are analyzed. The intent is not to recommend that all of these diagnostic tests be performed on all patients.

SeqNo	ShortName	Data Field Intent	Field Name Clarification	Source Document
630	WeightKg	Capture weight closest to date of surgery in kilograms. Used to calculate body surface area and is a field for risk calculation.	To convert pounds to kilograms, divide # of lbs by 2.2 1 Kg = 2.2 pounds	Anesthesia record History & Physical Nursing graphic sheet Perfusion record Pre-op checklist
640	HeightCm	Capture height nearest to date of surgery in centimeters. Used to calculate body surface area and field for risk calculation.	Ft-in cm (2.54 cm = 1 inch) 4’10’’ 147 4’11’’ 149 5’0’’ 152 5’1’’ 155 5’2’’ 157 5’3’’ 160 5’4’’ 163 5’5’’ 165 5’6’’ 168 5’7’’ 170 5’8’’ 173 5’9’’ 175 5’10’’ 178 5’11’’ 180 6’0’’ 183 6’1’’ 185 6’2’’ 188 6’3’’ 190 6’4’’ 193 6’5’’ 195 6’6’’ 198 6’7’’ 200	Anesthesia record History & Physical Nursing graphic sheet Perfusion record Pre-op checklist

650	CigSmoker	Capture the cigarette smoking status of the patient anytime during the year prior to surgery.	The smoking status of the patient is limited to cigarette smoking only within the year prior to surgery date.	Consultations History & Physical Patient admission form Pre-op assessment
660	CigSmokerCurr	To capture current smokers	Indicate whether the patient smoked cigarettes within two weeks prior to the procedure. Current smokers may have more postoperative pulmonary issues.	Consultations History & Physical Patient admission form Pre-op assessment
661	OthTobUse	Captures use of any tobacco product other than cigarettes within one year.	Includes cigars, pipes, and chewing tobacco. For chewing tobacco, dipping tobacco, snuff, which are held in the mouth between the lip and gum, or taken in the nose, the amount of nicotine released into the body tends to be much greater than smoked tobacco. Nicotine has very powerful effects on arteries throughout the body. Nicotine is a stimulant, it raises blood pressure, and is a vasoconstrictor, making it harder for the heart to pump through the constricted arteries. It causes the body to release its stores of fat and cholesterol into the blood.	Consultations History & Physical Patient admission form Pre-op assessment
670	FHCAD	Does the patient have any 1st generation family member (parents/sibling/children) with coronary artery disease diagnosed and/or treated prior to age 55 for male relatives or less	The disease, treatment (surgical, non-surgical or medical) and/or symptoms must have been present or reported to have occurred prior to age 55 (considered a strong predictor for development of CAD); may include but not limited to angina, MI, CABG, PCI, or sudden cardiac death with no known	Admit or ED note Consultations History & Physical Patient admission

		than 65 years for female relatives?	cause. Early onset of CAD in patient and/or first generation family members predisposes patient to increased risk of mortality/morbidity. Code family history as "No" if the patient is adopted and family history is unknown.	form
October 2011	The patient's mother died of CAD at 68, Father died of CAD at 78, three brothers died of CAD and one sister is alive with CAD. One son dies at age 56. Although this does not meet the guidelines for premature history, it seems this strong family history should be captured.		Although the family history of heart disease is strong, there is no documentation of <u>premature</u> coronary disease which is a strong predictor of outcomes. You need the ages to document premature CAD.	
Capture lab values if available, not all patients will have (or need) all of the following labs drawn. This <u>does not</u> imply that the labs listed below are required or should be added to routine pre op screening. **December 2013 - Most hospitals have a policy on how far back pre-op labs can be drawn. Obviously as close to surgery as possible is preferred, STS recommends within 30 days pre op.**				
680	Hct	Capture the pre-op Hematocrit level at the date and time closest to surgery but prior to anesthetic management.	Hct, Hematocrit, is the proportion of red cells in the blood. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results. Do not capture labs drawn after the patient receives fluids in the holding area or O.R. since this will dilute the blood. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood and therefore a lower Hematocrit if the labs are drawn after fluids are started.**	Anesthesia record Laboratory report Outpatient record Pre-op checklist
690	WBC	Capture the pre-op WBC count at the date and time closest to surgery but prior to anesthetic management.	White Blood Cells (leukocytes) are part of the body's immune defense and are often elevated in the presence of infection. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source	Anesthesia record Laboratory report Outpatient record Pre-op

			documents may be referenced for lab results. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood , do not capture labs drawn after the patient receives fluids in the holding area or O.R.**	checklist
700	Platelets	Capture the platelet count at the date and time closest to surgery but prior to anesthetic management.	Platelets are a blood component instrumental in clot formation. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood**. **Do not capture labs drawn after the patient receives fluids in the holding area or O.R.**	Anesthesia record Laboratory report Outpatient record Pre-op checklist
710	INR	Capture the INR at the date and time closest to surgery but prior to anesthetic management.	INR is the standard unit used to report the result of a prothrombin (PT) test. An individual whose blood clots normally and who is not on anticoagulation should have an INR of approximately 1. The higher the INR is, the longer it takes blood to clot. As the INR increases above a given level, the risk of bleeding and bleeding-related events increases. As the INR decreases below a given level, the risk of clotting events increases. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood**. **Do not capture labs drawn after the patient receives fluids in the holding area or O.R.**	Anesthesia record Laboratory report Outpatient record Pre-op checklist

711	HITAnti	Indicate whether Heparin Induced Thrombocytopenia, HIT, is confirmed by antibody testing.	Heparin induced thrombocytopenia (HIT) can be defined as any clinical event best explained by platelet factor 4 (PF4) / heparin-reactive antibodies ('HIT antibodies') in a patient who is receiving, or who has recently received heparin. Thrombocytopenia is the most common 'event' in HIT and occurs in at least 90% of patients, depending upon the definition of thrombocytopenia. A high proportion of patients with HIT develop thrombosis. Alternative (nonheparin) anticoagulant therapy reduces the risk of subsequent thrombosis. THE SRA (serotonin release assay) test is the most definitive HIT test http://emedicine.medscape.com/article/1357846-overview	Anesthesia record Laboratory report Outpatient record Pre-op checklist
October 2011	When do you choose "not applicable?"		If the test was not drawn, mark not applicable.	
July 2011	What is the timeframe for the HIT antibody?		The timeframe is any time before surgery.	
720	TotBlrbn	Indicate the total Bilirubin closest to the date and time of surgery, prior to anesthetic management.	Bilirubin testing checks for levels of bilirubin — an orange-yellow pigment — in blood. Bilirubin is a natural byproduct that results from the normal breakdown of red blood cells. As a normal process, bilirubin is carried in the blood and passes through the liver. Too much bilirubin may indicate liver damage or disease. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood. Do not capture labs drawn after the patient receives fluids in the holding area or O.R.**	Anesthesia record Laboratory report Outpatient record Pre-op checklist

October 2011	What timeframe is acceptable for bilirubin and albumin?		You can capture results up to 6 weeks prior to surgery provided there is no known acute liver disease process.	
730	TotAlbumin	Indicate the albumin level closest to the date and time of surgery, prior to anesthetic management.	Albumin, produced only in the liver, is the major plasma protein that circulates in the bloodstream. Albumin is essential for maintaining the oncotic pressure in the vascular system. A decrease in oncotic pressure due to a low albumin level allows fluid to leak out from the interstitial spaces into the peritoneal cavity, producing ascites. Albumin is also very important in the transportation of many substances such as drugs, lipids, hormones, and toxins that are bound to albumin in the bloodstream. A low serum albumin indicates poor liver function. Decreased serum albumin levels are not seen in acute liver failure because it takes several weeks of impaired albumin production before the serum albumin level drops. The most common reason for a low albumin is chronic liver failure caused by cirrhosis. The serum albumin concentration is usually normal in chronic liver disease until cirrhosis and significant liver damage has occurred. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood**. **Do not capture labs drawn after the patient receives fluids in the holding area or O.R.**	Anesthesia record Laboratory report Outpatient record Pre-op checklist

740	A1cLvl	Capture the pre-op HbA1c level closest to the date and time prior to surgery.	Glycosylated hemoglobin, HbA1c, is a form of hemoglobin used primarily to identify the average plasma glucose concentration over prolonged periods of time. It is formed in a non-enzymatic glycation pathway by hemoglobin's exposure to plasma glucose. Normal levels of glucose produce a normal amount of glycosylated hemoglobin. As the average amount of plasma glucose increases, the fraction of glycosylated hemoglobin increases in a predictable way. This serves as a marker for average blood glucose levels over the previous months prior to the measurement. The 2010 American Diabetes Association Standards of Medical Care in Diabetes added the A1c ≥ 6.5% as a criterion for the diagnosis of diabetes.	Anesthesia record Laboratory report Outpatient record Pre-op checklist
June 2011	Can a post operative A1C be captured here since the value reflects a long time period?		No, transfusion, the heart-lung machine and other factors can alter the A1C so only capture pre op values.	
750	CreatLst	Capture the creatinine level closest to the date and time prior to surgery.	Creatinine is a chemical waste molecule that is generated from muscle metabolism. If the kidneys become impaired for any reason, the creatinine level in the blood will rise due to poor clearance by the kidneys. Abnormally high levels of creatinine thus warn of possible malfunction or failure of the kidneys. **Anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood. Do not capture labs drawn after the patient receives fluids in the holding area or O.R.**	Anesthesia record Laboratory report Outpatient record Pre-op checklist

780	Diabetes	Capture the presence and or history of diabetes mellitus, regardless of duration of disease or need for anti-diabetic agents diagnosed prior to surgical intervention.	History of diabetes diagnosed and/or treated by a physician and documented in the medical record. ADA criteria below are informational, not intended for data managers to diagnose diabetes. The American Diabetes Association criteria include documentation of the following: 1. A1C (glycosylated hemoglobin) ≥6.5%; or 2. Fasting plasma glucose ≥126 mg/dl (7.0 mmol/l); or 3. Two-hour plasma glucose ≥200 mg/dl (11.1 mmol/l) during an oral glucose tolerance test; or 4. In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥200 mg/dl (11.1 mmol/l) It does not include gestational (pregnancy) diabetes. **Reference:** **ADA Position Statement Standards of Medical Care in Diabetes - 2010**	Admit or ED note Consultations History & Physical Patient admission form Pre-op checklist
October 2011	I am uncomfortable coding diabetes based on the A1c, isn't this a diagnosis?		Coding yes to diabetes for hemoglobin A1c ≥6.5% allows you to capture the surgical risk associated with this finding and is based on the ADA guidelines.	
July 2011	If the patient is being treated with Metformin or other oral agents and there is no A1c, is this considered Diabetes?		Count patients being treated with diabetes medication, such as Metformin, as Diabetic.	
July 2011	If the Hemoglobin A1C is ≥ 6.5 can you code yes to diabetes?		Yes this meets the standards of the ADA.	

790	DiabCtrl	Indicate the control method the patient presented with on admission. (None, Diet, Oral, or Insulin)	Control type is the long term management therapy used. If a patient has been diet or oral controlled prior to admission and then switched to insulin, the control would be the diet/oral. If NO control used prior to admission and diabetic protocol to initiate insulin drip was started, control is NONE. Patients placed on a pre-operative diabetic pathway of Insulin drip but at admission were controlled with NONE, diet or oral methods are not coded as insulin dependent.	Consultations History & Physical Medication administration record Patient admission form Pre-op checklist
July 2011	How is Byetta coded for Diabetes control?		Byetta, Exenatide is an injection used along with diet & exercise for diabetes control, code as other.	
800	Dyslip	Current or previous diagnosis of Dyslipidemia.	Code as "Yes" if a patient is prescribed treatment for Dyslipidemia (resulting in normal lab values) even if antilipids are prescribed prophylactically or if the patient's lab findings meet any of the National Cholesterol Education Program criteria: Total Cholesterol > 200mg/dl (5.18 mmol/l) Low Density Lipoprotein (LDL) ≥ 130 mg/dl (3.37 mmol/l), High Density Lipoprotein < 40 mg/dl (1.02mmol/l) in men and less than 50 mg/dl (1.20mmol/l) in women.	Consultations History & Physical Laboratory report Outpatient record Patient admission form Pre-op checklist
Aug 2012	Pt. has no history of dyslipidemia and was on no meds at home but the Dr. orders antilipid med upon admit/pre-op, do we abstract "Yes"?		Code as Yes since the medication's benefits are present for surgery. Studies indicate that some of the cholesterol-independent or "pleiotropic" effects of statins involve improving endothelial function, enhancing the stability of atherosclerotic plaques, decreasing oxidative stress and inflammation, and inhibiting the thrombogenic response.	

810	Dialysis	Is the patient currently undergoing renal dialysis?	Includes any form of peritoneal or hemodialysis patient is receiving at the time of admission. Also, may include Continuous Veno-Venous Hemofiltration (CVVH, CVVH-D), and Continuous Renal Replacement Therapy (CRRT) as dialysis. Code '"No" for renal dialysis if ultrafiltration is the only documentation found in the record since this is for volume management.	Admit or ED note Consultations History & Physical Patient admission form Pre-op checklist Renal dialysis record
815	MELDScr	Calculated by software	MELD is a validated liver disease severity scoring system that uses laboratory values for serum bilirubin, serum creatinine and the INR to predict survival. In patients with chronic liver disease, an increasing MELD score is associated with increasing risk of death. ≤ 15 predictive of 95% survival at 3 months ~ 30 predictive of 65% survival at 3 months ≥ 40 predictive of 10-15% survival at 3 months MELD = 3.8[Ln serum bilirubin (mg/dL)] + 11.2[Ln INR] + 9.6[Ln serum creatinine (mg/dL)] + 6.4. Laboratory values of INR, total bilirubin and serum creatinine that are <1.0 are set to 1.0. In addition, serum creatinine levels >4.0 mg/dL are capped at 4.0 mg/dL, and patients on dialysis receive an assigned serum creatinine value of 4.0 mg/dL. Reference: www.mayoclinic.org/meld/mayomodel6.html	

820	Hypertn	Does the patient have documented hypertension?	Diagnosis of hypertension should not be based on a single elevated blood pressure reading, rather a diagnosis of hypertension, documented by one of the following: a) Documented history of hypertension diagnosed and treated with medication, diet and/or exercise b) 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. c) Currently on pharmacologic therapy to control hypertension.	Admit or ED note Consultations History & Physical Patient admission form Anesthesiology pre-op
830	InfEndo	Indicate whether the patient has a history of infective endocarditis.	This applies to any history of endocarditis; even remote history can result in valve damage. The next question will capture whether the condition is treated or active. According to the CDC: Endocarditis of a natural or prosthetic heart valve must meet at least 1 of the following criteria: 1. Patient has organisms cultured from valve or vegetation. 2. Patient has 2 or more of the following signs or symptoms with no other recognized cause: 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 **AND at least 1 of the following**: a. organisms cultured from 2 or more blood cultures	Admit or ED note Consultations History & Physical Patient admission form Lab results-micro Anesthesiology pre-op

			b. organisms seen on Gram's stain of valve when culture is negative or not done c. valvular vegetation seen during a surgical operation or autopsy d. positive antigen test on blood or urine (e.g., H influenzae, S pneumoniae, N meningitides, or Group B Streptococcus) e. evidence of new vegetation seen on echocardiogram and if diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy.	
840	InfEndTy	If endocarditis is present, is it treated or active?	If the patient is currently being treated with antimicrobials for endocarditis, the disease is considered active. If no antimicrobial medication (other than prophylactic medication) is being given at the time of surgery, then the infection is considered treated.	Medication Orders Medication Administration Record
850	InfEndCult	Indicate the result of the culture (blood or tissue) related to the endocarditis.	The most common causal agents are listed; choose "other" if none of these apply or no culture result is available. Culture Negative, Staphylococcus aureus, Streptococcus species, Coagulase negative staphylococcus, Enterococcus species, Fungal, or Other.	Lab reports, microbiology Pathology Report
October 2011	If there is a history of endocarditis, now culture neg, do we code negative or the treated organism?		Code 830(endocarditis)=yes Code 840 (type) =treated Code 850 (culture)= the responsible organism	
July 2011	Can I use the OR culture?		Yes.	

860	ChrLungD	Identify patients with a history of lung disease. This field is part of the risk model.	The diagnosis of chronic lung disease is not based solely on the fact that a person has or currently is smoking, or is on home oxygen. Diagnostic testing and or pharmacological criteria must be met. Chest x-ray is not included in the data specs for inclusion as chronic lung disease and should not be coded as "Yes". Indicate whether the patient has chronic lung disease, and the severity level according to the following classification: 1)**No** 2) **Mild**: FEV1 60% to 75% of predicted, and/or on chronic inhaled or oral bronchodilator therapy. 3) **Moderate**: FEV1 50% to 59% of predicted, and/or on chronic steroid therapy aimed at lung disease. 4) **Severe**: FEV1 <50% predicted, and/or Room Air pO2 < 60 or Room Air pCO2 > 50. A history of chronic inhalation reactive disease (asbestosis, mesothelioma, black lung disease or pneumoconiosis) may qualify as chronic lung disease. Radiation induced pneumonitis or radiation fibrosis also qualifies as chronic lung disease. (if above criteria is met) A history of atelectasis is a transient condition and does not qualify. Chronic lung disease can include patients with chronic obstructive pulmonary disease, chronic bronchitis, or emphysema. 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,	Admit or ED note Consultations History & Physical Patient admission form ABGs PFTs Anesthesiology pre-op

			or steroid). Patients with asthma or seasonal allergies are not considered to have chronic lung disease.	
Aug 2012	Does a diagnosis of Bronchiolitis obliterans organizing pneumonia (BOOP) qualify for COPD when the FEV1 is 81% with DLCO of 103%		No, follow the criteria for mild, moderate or severe disease.	
March 2012	If the FEV1 is normal, is there a range for DLCO values to quantify mild, moderate or severe lung disease?		There is currently no way to do this, we will add this to the log for the next version.	
July 2011	Nothing in the history indicates COPD, the surgeon documents that the patient's lungs are covered in blebs. Can this be coded Chronic lung disease?		No, there is no way to quantify lung disease in this scenario.	
880	PFT	Indicate whether pulmonary function tests were performed. This does not imply PFTs should be performed on all patients.	Pulmonary function testing is a valuable tool for evaluating the respiratory system, representing an important adjunct to the patient history, various lung imaging studies, and invasive testing such as bronchoscopy and open-lung biopsy. Insight into underlying pathophysiology can often be gained by comparing the measured values for pulmonary function tests obtained on a patient at any particular point with normative values derived from population studies. The percentage of predicted normal is used to grade the severity of the abnormality. Pulmonary function testing is used in clinical medicine for evaluating respiratory symptoms such as dyspnea and cough, for stratifying preoperative risk, and for diagnosing common diseases such as asthma and chronic obstructive pulmonary disease.	History and Physical Pulmonary Function report Anesthesiology Pre-op
July 2011	If only an FEV1 was done, can you say yes to PFTs?		Yes. Use the best data available to you. If bedside & full were done, use the results from the full PFTs. Use bedside PFTs if that is all you have available.	

890	FEV1	If PFTs were done, code the results of FEV1 on the most recent test prior to surgery.	FEV1 is the maximal amount of air forcefully exhaled in one second. It is then converted to a percentage of normal. For example, the FEV1 may be 80% of predicted based on height, weight, and race. FEV1 is a marker for the degree of obstruction with diseases such as asthma In normal persons, the FEV1 accounts for the greatest part of the exhaled volume from a spirometric maneuver and reflects mechanical properties of the large and the medium-sized airways. •FEV1 > 75% of predicted= normal •FEV1 60% to 75% of predicted = Mild obstruction •FEV1 50% to 59% of predicted = Moderate obstruction •FEV1 < 50% of predicted = Severe obstruction	History and Physical Pulmonary Function report Anesthesiology Pre-op Bedside PFT
March 2012	My software won't allow me to code values greater than 100%, should I leave it blank?		If the patient performs better than 100% of the predicted value, code 100%.	
892	DLCO	Indicate whether a lung diffusion test was done. (DLCO)	The diffusing capacity (DLCO) is a test of the integrity of the alveolar-capillary surface area for gas transfer.	Pulmonary Function report Consultation Anesthesiology pre-op
893	DLCOPred	Code the results- % predicted of DLCO on the most recent test prior to surgery.	The diffusing capacity (DLCO) may be reduced, <80% predicted, in disorders such as emphysema, pulmonary fibrosis, obstructive lung disease, pulmonary embolism, pulmonary hypertension and anemia. DLCO>120% of predicted may be seen in normal lungs, asthma, pulmonary hemorrhage, polycythemia, and left to right intracardiac shunt.	Pulmonary Function report Consultation Anesthesiology pre-op

October 2011	Which number from the report should be reported?		This is generally reported as the diffusion capacity divided by the alveolar volume. On the report it would appear as : DLCO/VA % Pred If greater than 100%, code as 100%	
900	ABG	Indicate whether a room air arterial blood gas was performed prior to surgery. This does not imply all patients should have blood gasses performed.	Arterial blood gasses may be drawn in patients with suspected lung disease or sometimes during cardiac catheterization.	Lab reports Respiratory or nursing flow sheets
July 2011	Can you use ABGs drawn in the OR while the arterial line is being inserted?		Do not use ABGs drawn after initiation of anesthetic management. They may not accurately reflect the patient's true baseline due to preop sedation, anxiety, pain and other factors.	
910	PO2	If ABGs were done, indicate the PO2 (partial pressure of oxygen) level on the most recent room air arterial blood gas.	The partial pressure of oxygen that is dissolved in arterial blood. Normal values 80-100mm Hg. In the persons over 60 years of age, the normal is lower. Subtract 1 mm Hg from the minimal 80 mm Hg level for every year over 60 years of age: 80 - (age-60) (Note: up to age 90)	Lab reports Respiratory or nursing flow sheets
920	PCO2	Indicate the PCO2 (partial pressure of carbon dioxide) level on the most recent room air arterial blood gas.	The normal range is 35-45 mmHg. Higher levels (CO2 retention) may indicate hypoventilation and low levels are consistent with hyperventilation.	Lab reports Respiratory or nursing flow sheets
930	HmO2	Indicate whether the patient uses supplemental oxygen at home	Capture patients with home oxygen therapy prescribed, despite the amount or frequency of use.	History & Physical Nursing Admission history Anesthesiology Pre-op
October 2011	If home O2 was NEVER used do you code yes?		No, if prescribed and never used, code No.	
July 2011	What if home oxygen was prescribed but never or rarely used? Is there a timeframe for prescription?		~~If the patient qualified for and was prescribed home O2, code yes~~, there is no timeframe.	

940	BDTx	Indicate whether inhaled and/or oral bronchodilator therapy or inhaled (not oral or IV) steroid medications were in use by the patient prior to this procedure.	Capture patients with prescribed bronchodilator therapy, despite amount or frequency of use. Capture prn and routine use. A bronchodilator is a substance that dilates the bronchi and bronchioles, decreasing airway resistance and thereby facilitating airflow. They are most useful in obstructive lung diseases, of which asthma and chronic obstructive pulmonary disease are the most common conditions. Bronchodilators are either short-acting or long-acting. Short-acting medications provide quick or "rescue" relief from acute bronchoconstriction. Long-acting bronchodilators help to control and prevent symptoms.	History & Physical Nursing Admission history Anesthesiology Pre-op Medication History form
	SlpApn	Indicate whether patient has a **diagnosis** of sleep apnea and has been prescribed BiPAP (Bi-level Positive Airway Pressure) or CPAP therapy. Do not capture suspected sleep apnea or that reported by family members if 950not diagnosed by a physician.	Capture patients with prescribed home therapy despite frequency of use. Sleep apnea is a potentially serious sleep disorder in which breathing repeatedly stops and starts during sleep. Sleep apnea occurs in two main types: obstructive sleep apnea, the more common form that occurs when throat muscles relax, and central sleep apnea, which occurs when the brain doesn't send proper signals to the muscles that control breathing. Additionally, some people have complex sleep apnea, which is a combination of both. Sleep apnea has been associated with sudden death.	Admit or ED note Consultations History & Physical Patient admission form Sleep Study Physician progress notes Respiratory therapy notes
Aug 2012	Pt. has h/o sleep apnea treated surgically. Unknown if he had been on CPAP/BiPAP prior to surgery. Is he considered "cured" since he is not on CPAP now? Is this once diseased always diseased or should I code Yes since he has history and it was treated, though surgically not medically?		Code no to sleep apnea	

960	LiverDis	Indicate whether the patient has a documented history of liver disease.	Liver diseases such as hepatitis B, hepatitis C, cirrhosis, portal hypertension, esophageal varices, chronic alcohol abuse and congestive hepatopathy affect the cells, tissues, structures, or functions of the liver. Severity can range from mild to severe and will be quantified by the MELD score.	Admit or ED note Consultations History & Physical Pt. admission form Physician progress notes Pre-op checklist Respiratory therapy notes
Aug 2012	Is hepatomegaly without symptomatology considered liver disease?		Not unless MELD score supports it	
Aug 12	Is elevated liver function tests with history of alcohol and polysubstance abuse enough or must documentation specifically state Liver Disease?		If MELD score supports it, but not just based on abuse.	
Aug 2012	Can we count liver disease if pt. has documented liver fibrosis with recurrent ascites? The ascites documented as a result of rt sided heart failure?		Yes if liver fibrosis is documented and supported by the MELD score	
July 2011	My surgeon wants me to code yes to liver disease even though it is not documented, since the patient has CHF and venous congestion.		No, do not code yes to liver disease unless it is specifically documented in the record.	
March 2014	Is there a specific MELD score which determines liver disease?		Liver disease can be code yes if it is qualified by a specific diagnosis OR if it is quantified by a MELD score greater than or equal to 10.	
March 2014	Should liver disease be coded for the patient whose has had a liver transplant?		Do not code liver disease if the patient has no residual anatomic or systemic issue OR if the MELD score does not quantify liver disease.	
970	ImmSupp	Indicate whether immune compromise is present.	This includes, but is not limited to systemic steroid therapy, anti-rejection medications and chemotherapy. Has the patient been administered any form of immunosuppressive therapy within 30 days of surgery or was the patient prescribed steroids for chronic or long term usage? DO NOT include topical creams or inhalers that are steroidal in form. DO	Admit or ED note Anesthesia record Consultations History & Physical Medication administrati

			NOT include patients who receive a one or two time dose of systemic treatment, or a pre-operative/pre-cath protocol. There are four classes of drugs considered to be immunosuppressive. Corticosteroids (only if taken systemically) Cytotoxic drugs, Antimetabolites and Cyclosporine. Immunosuppression can result from radiation therapy, malnutrition, or removal of the spleen. Immunodeficiency can be inherited or acquired. Examples of conditions causing immunocompromise include Hypogammaglobulinemia and HIV infection.	on record Patient admission form Pre-op checklist
Aug 2012	TM states "Immunosuppression can result from radiation therapy, malnutrition, or removal of the spleen. Immunodeficiency can be inherited or acquired. Examples of conditions causing immunocompromise include Hypogammaglobulinemia and HIV infection." The pt. has had a previous splenectomy, should immunocompromised status be selected?		Yes, splenectomy, especially if required immunizations are not up to date increases risk of certain infections, and it would be difficult to ascertain the immunization status on all patients.	
Aug 2012	Pt. has h/o Hodgkin's lymphoma. No timeframe provided. Is this considered immunocompromised?		No, this does not imply immunocompromise	
980	PVD	Identify whether the patient has a history of peripheral arterial disease (includes upper and lower extremity, renal, mesenteric, and abdominal aortic systems).	Peripheral arterial disease can include any of the following: • claudication either with exertion or rest; • amputation for arterial vascular insufficiency; • aorto-iliac occlusive disease reconstruction • vascular reconstruction, bypass surgery, or percutaneous intervention to the extremities (excluding dialysis fistulas and vein stripping) • peripheral angioplasty or stent documented • documented abdominal (below the	Admit or ED note Angiography report Consultations Doppler studies History & Physical Magnetic resonance angiogram (MRA) report

			diaphragm) aortic aneurysm with or without repair • positive non-invasive or invasive testing documented ankle brachial index ≤ 0.9, angiography, ultrasound, MRI or CT imaging of > 50% stenosis in any peripheral artery. Peripheral arterial disease excludes disease in the carotid or cerebral vascular arteries or thoracic aneurysms.	Radiology reports
Aug 2012	Septic emboli secondary to endocarditis with rt. lower extremity blockage. Arterial duplex: Rt. Distal posterior tibial occlusion. Angiographicly it is patent. Rt. Peroneal artery has flow at the ankle but mid stenosis is present at 300cm/sec. The anterior tibial artery is occluded proximally. Does this quality for PVD?		No, this is embolic and not atherosclerotic disease	
1000	UnrespStat	Indicate whether the patient has a history of non-medically induced, unresponsive state within 24 hours of the time of surgery.	Patient experienced complete unresponsiveness and no evidence of psychological or physiologically appropriate responses to stimulation, includes patients who experience sudden cardiac death.	Admit or ED note Consultations History & Physical Patient admission form Physician progress notes Pre-op checklist
Oct 2011	Should a patient who had a cardiac arrest be captured here?		Only code yes if the patient never regained consciousness prior to surgery. Temporary loss of consciousness that resolved after cardiac arrest should not be coded as yes.	

1001	Syncope	Indicate whether the patient had a sudden loss of consciousness with loss of postural tone, not related to anesthesia, with spontaneous recovery and believed to be related to cardiac condition. Capture events occurring within the past one year as reported by patient or observer. Patient may experience syncope when supine.	Cardiac conditions including dysrhythmias and aortic stenosis can cause syncope. Do not capture remote episodes of syncope unrelated to cardiac conditions.	Admit or ED note Consultations History & Physical Patient admission form Physician progress notes Pre-op checklist
1010	CVD	Indicate whether the patient has Cerebrovascular Disease.	CVD may be documented by any one of the following: CVA (symptoms > 24 hrs after onset, presumed to be from vascular etiology) TIA (recovery within 24 hrs) Non-invasive carotid test with > 79% diameter occlusion Documented "severe" or "critical" stenosis Prior carotid surgery or stenting or prior cerebral aneurysm clipping or coil Does not include neurological disease processes such as metabolic and/or anoxic ischemic encephalopathy. Choose all that apply 1020-1080	Admit or ED note Consultations Computed tomography (CT) scan report History & Physical Magnetic resonance imaging (MRI) report Radiology report Ultrasound report
August 2013	How is traumatic subdural hematoma coded as cerebral vascular disease?		It would not be coded as cerebral vascular disease.	

Aug 2012	Patient was admitted with dizziness, Holter monitor revealed sick sinus syndrome which led to carotid doppler study and CT Angiography of the neck. Ultrasound: Bilateral Internal carotid artery stenosis, 70% on the left; 65-70% on the right. Severe stenosis of the right external carotid CTA: 75% stenosis of the postbulbar region of the left internal carotid artery with 60% stenosis at the origin. 50% stenosis of the proximal right internal carotid artery. Patient underwent CAB and carotid endarterectomy. How do I code CV disease when there is no history of stroke, TIA, prior stenting or surgery when the test results do not fit the definition yet a procedure was done? Can I say Yes to CV disease and check all 'no's?'		No, per current specs need to be > 79%. This will need to be revised in the next version.	
Oct 2011	Patient underwent CAB and carotid endarterectomy. How do I code CV disease when there is no history of stroke, TIA, prior stenting or surgery when the test results do not fit the definition yet a procedure was done? Can I say Yes to CV disease and check all 'no's?'		Choose 80-99% for stenosis labeled as "critical" or "severe" or "subtotal"	
1020	CVA	Indicate whether the patient has a history of stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood flow to the brain) that did not resolve within 24 hours.	Include any confirmed neurological deficit of abrupt onset caused by a disturbance in cerebral blood supply that did not resolve within 24 hours of the event. The physical deficit can be in the form of extremity weakness, facial asymmetry, language (speech and/or cognitive thinking) impairment. Code "Yes" if a patient may have had a permanent stroke with residual when over time and/or with therapy regained all deficit function. The intent is to differentiate between neurological events that resolve and those that don't.	Admit or ED note Anesthesia record Consultations History & Physical Outpatient record
1030	CVAWhen	Indicate when the CVA events occurred.	An event occurring within two weeks of the surgical procedure is considered recent, while all others are to be considered remote.	Admit or ED note Anesthesia record Consultations History & Physical
1050	CVDTIA	Indicate whether the patient has a history of a Transient Ischemic Attack (TIA): Patient has a history of loss of neurological function that was abrupt in onset but	A TIA is commonly described as a loss of neurological function that was abrupt in onset but with complete return of function within 24 hours.	Admit or ED note Anesthesia record Consultations History &

		with complete return of function within 24 hours.		Physical Physician progress notes
1070	CVDCarSten	Indicate which carotid artery was determined from any diagnostic test to be more than 79% stenotic.	Choose none, right, left or both. Diagnostic studies may include ultrasound, doppler, angiography, CT, MRI or MRA. If more than one test was performed with different results, choose the highest level of stenosis reported.	Consultations CT scan report History & Physical Physician progress notes MRA report Radiology report Ultrasound report
1071	CVDStenRt	If field 1070 was answered "right" or "both", indicate the severity of stenosis of the right carotid artery.	A stenosis of 80-99% indicates a higher risk than a carotid artery that is already 100% occluded.	Consultations CT scan report History & Physical Physician progress notes MRA report Radiology report Ultrasound report
1072	CVDStenLft	If field 1070 was answered "left" or "both", indicate the severity of stenosis of the left carotid artery.	A stenosis of 80-99% indicates a higher risk than a carotid artery that is already 100% occluded.	Consultations CT scan report History & Physical Physician progress

				notes MRA report Radiology report Ultrasound report
1080	CVDPCarSurg	Indicate whether the patient has a history of previous carotid surgery, angioplasty or stenting.	Carotid endarterectomy is a surgical procedure during which a surgeon removes atherosclerotic plaque or other material obstructing the flow of blood from the artery. This procedure eliminates a substance called plaque from the artery and can restore blood flow. Carotid artery stenting is a procedure in which a slender, metal-mesh tube, called a stent, is inserted and expands inside the carotid artery to increase blood flow in areas blocked by plaque.	History & Physical Consultations
1130	IVDrugAb	Indicate whether patient has a history of illicit drug use such as heroin, marijuana, cocaine, or meth, regardless of route of administration. Do not include rare historical use.	Capture patients with habitual use of illicit drugs. Include abuse of street and prescription medications. Illicit drug use is associated with numerous health and social problems, and age-related physiological, psychological, and social changes that could impact recovery from surgery.	Admit or ED note Consultations History & Physical Patient admission form Physician progress notes
July 2011	Is occasional marijuana use considered illicit drug use?		Yes	
1131	Alcohol	Specify Alcohol Consumption History	≤1 drink per week (occasional), 2-7 drinks per week (social) or ≥ 8 drinks per week (heavy). This data element is harmonized with the ACC/AHA definitions. Although it may be difficult to quantify in this exact manner, the intent is to separate occasional, social	Admit or ED note Consultations History & Physical Patient

			and heavy alcohol drinkers. Include any type of alcohol- beer, wine, hard liquor, etc.	admission form Physician progress notes
Aug 2012	Patient has a history of 1 pint alcohol consumption daily. Quit 3 months ago. Is this ≤1 drink/week" or ≥ 8 drinks/week to show her abuse?		Answer ≤ 1 drink per week, the risk associated with ETOH withdrawal is in the first two weeks. If there was liver damage, the MELD score will reflect it.	
July 2011	If there is no alcohol consumption, what do we select?		Select ≤ 1 drink per week.	
1140	Pneumonia	Indicate whether patient has a recent or remote history of pneumonia.	Pneumonia is an infection of one or both lungs caused by bacteria, viruses, fungi, chemicals or aspiration. It can be community acquired or acquired in a health care setting. Typical symptoms associated with pneumonia include cough, chest pain, fever, and difficulty in breathing. Diagnostic tools include x-rays and examination of the sputum. Treatment depends on the cause of pneumonia; bacterial pneumonia is treated with antibiotics. This is coded as: No - meaning no history of pneumonia Recent- pneumonia diagnosis within 1 month of procedure or Remote - pneumonia diagnosis more than 1 month prior to the procedure.	Admit or ED note Consultations History & Physical Patient admission form Physician progress notes Pre-op checklist
Aug 2012	The admission consult note states the following: chest x-ray shows prominence of interstitial markings in the bilateral mid and lower lung fields with ill-defined opacities in the right lung base. (Possible pneumonia on chest x-ray. The patient has been started on Rocephin and Zithromax and DuoNeb. We will obtain blood cultures and sputum cultures.) The blood cultures were negative and the sputum cultures were never done. There is no mention again of patient having pneumonia in the progress notes before surgery. Do I code recent pneumonia because it is only possible code NO?		There must be documentation of pneumonia, in this case the chest xray says pneumonia and treatment was initiated, so say yes to pre op pneumonia.	

1150	MediastRad	Indicate whether patient has a history of radiation therapy to the mediastinum or chest	Chest wall or mediastinal radiation can cause damage to blood vessels, heart valves and lung tissue. Scar tissue caused by radiation therapy can lead to increased bleeding, may make harvesting the internal mammary artery difficult and may interfere with sternal healing.	Admit or ED note Consultations History & Physical Patient admission form Physician progress notes Pre-op checklist
Aug 2012	Patient had laryngeal cancer and received radiation and chemo. I don't know how far the radiation extended into the chest, or if the mediastinum would be affected? I coded Cancer within 5 years but didn't know if this kind of cancer would also be included in mediastinal radiation.		No, the mediastinum would not have been radiated for this cancer.	
1160	Cancer	Indicate whether the patient has a history of cancer diagnosed within 5 years of procedure	Capture cancers that require surgical intervention, chemotherapy and or radiation therapy. Do not capture minor localized cancers such as skin cancers.	Admit or ED note Consultations History & Physical Patient admission form Physician progress notes Pre-op checklist

1161	Five MWalkTest	This gait speed test is a measure of frailty in ambulatory patients, a risk factor previously difficult to capture. If done, you will need to record at least one time, ideally 3 times that the system will average.	Frailty is a risk factor for surgery that has been difficult to quantify. This simple test quantifies frailty prior to surgery in ambulatory patients. Instructions: 1. Accompany the patient to the designated area, which should be well-lit, unobstructed, and contain clearly indicated markings at 0 and 5 meters 2. Position the patient with his/her feet behind and just touching the 0-meter start line 3. Instruct the patient to "Walk at your comfortable pace" until a few steps past the 5-meter mark (the patient should not start to slow down before the 5-meter mark) 4. Begin each trial on the word "Go" 5. Start the timer with the first footfall after the 0-meter line 6. Stop the timer with the first footfall after the 5-meter line 7. Repeat 3 times, allowing sufficient time for recuperation between trials. (if unable to repeat x3, enter 1 or 2 times) Note: Patient may use a walking aid (cane, walker). If the patient is receiving an IV drip, he/she should perform the test without the IV only if it can be interrupted temporarily without any potential risk to the patient, if not, then the patient may perform the test pushing the IV pole. If the time taken to walk 5 meters averages > 6 seconds, the patient is considered frail. **Reference:** **Gait Speed as an Incremental Predictor of Mortality and Major Morbidity in Elderly...** **Afilalo et al. *J Am Coll Cardiol.*2010; 56: 1668-1676**	Preop Documentation

1170	FiveMWalk 1	Enter the 1st walk time in seconds	The system will average the values if more than one is provided.	
1180	FiveMWalk2	Enter the 2nd walk time in seconds		
1190	FiveMWalk3	Enter the 3rd walk time in seconds		

The date in the upper left corner reflects the most recent update. FAQs will be posted in the relevant section.
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E. PREVIOUS CARDIAC INTERVENTIONS

This section references surgical and/or interventional procedures done prior to the current procedure, inclusive of those done during the same hospitalization.

SeqNo	ShortName	Data Field Intent	Field Name Clarification	Source Document
1200	PrCVInt	Capture any history of previous cardiovascular intervention, either surgical or non-surgical. This would also include those procedures done during the current admission.	A patient having had previous invasive cardiac procedures (PCI or surgery) will have increased risk due to a variety of factors-such as repeated exposure to heparin potentiating incidence of heparin antibodies, heparin resistance or surgical adhesions. This is intended to capture surgical and/or interventional procedures, not diagnostic ones like TEE or cath. This may include hybrid procedures. (An example of a hybrid procedure would be a combined approach to myocardial revascularization, such as minimally invasive direct coronary artery bypass (MIDCAB) surgery with stented angioplasty at the same time.)	Admit or ED notes Anesthesia pre-op Consultations History & Physical Operative record Previous admission record Physician progress notes
1215	PrCAB	Indicate whether the patient had a previous Coronary Bypass Graft prior to the current admission.	This applies only to surgical approach to revascularization. Angioplasty or other catheter based coronary artery occlusion treatment does not apply.	Anesthesia pre-op Consultations History & Physical Operative report Previous admission record
1216	PrValve	Capture whether the patient had a previous cardiac valve procedure.	This may include percutaneous valve procedures such as percutaneous valvotomy or valvuloplasty, as well as surgical or transcatheter valve repair or replacement. Capture all procedures that apply.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
Aug 2012	Pt. had AVR in 1979, I cannot code more than 240 months since last procedure and I don't know the exact date. Should I code 01/01/1979 in the field: Estimate number of months since previous valve procedure?		Use 7/1/1979 (mid-year) if you don't know the exact date.	
Aug 2012	For a third time AVR redo should I choose the most recent or the first operation for number of months since previous valve procedure?		Choose the date of the most recent surgery.	
Aug 2012	My patient is undergoing an AVR but has had a previous MVR. His bioprosthetic mitral valve is working fine, is this once diseased always diseased?		Code the disease related to the AVR and any significant echo findings for MV, but do not code MV disease if the prosthetic valve is functioning normally.	

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March 2014	The Patient had a previous CAB. A transfemoral TAVR was attempted but there were access issues. The patient now returns 2 months later for transapical TAVR. Should the attempted transferal TAVR be coded as previous valve?		*No, this is not considered a previous valve.*	
1220	PrevProcAV Replace	Indicate whether a previous procedure included a surgical aortic valve replacement.	Did the patient have a surgical AVR? This is intended to capture traditional valve replacements, not transcatheter valves, even if performed by a surgeon.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1230	PrevProcAV Repair	Indicate whether a previous procedure included a surgical aortic valve repair.	Did the patient have a surgical AV repair? This is intended to capture traditional valve repairs, not transcatheter procedures, even if performed by a surgeon.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1240	PrevProcMVReplace	Indicate whether a previous procedure included a surgical mitral valve replacement.	Did the patient have a surgical MVR? This is intended to capture traditional valve replacements.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1250	PrevProcMV Repair	Indicate whether a previous procedure included a surgical mitral valve repair.	Did the patient have a surgical MV Repair? This is intended to capture traditional valve repairs.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1260	PrevProcTV Replace	Indicate whether a previous procedure included a surgical tricuspid valve replacement.	Did the patient have a surgical TVR? This is intended to capture traditional valve replacements.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1270	PrevProcTV Repair	Indicate whether a previous procedure included a surgical tricuspid valve repair.	Did the patient have a surgical TV Repair? This is intended to capture traditional valve repairs.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1280	PrevProc PV	Indicate whether a previous procedure included a surgical pulmonic valve repair or replacement.	This is intended to capture repair and/or replacement of the Pulmonic valve.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1285	PrevProcAV Ball	Indicate whether a previous procedure included an aortic	This is intended to capture procedures done using a balloon expanded within the aortic valve to increase the diameter of the opening and relieve	Anesthesia pre-op Consultations

		balloon valvuloplasty.	stenosis.	History & Physical Operative record Previous admission record
1290	PrevProcMV Ball	Indicate whether a previous procedure included a mitral valve balloon valvuloplasty.	This is intended to capture procedures done using a balloon expanded within the mitral valve to increase the diameter of the opening and relieve stenosis.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1300	PrevProcTCV Rep	Indicate whether a previous procedure included a transcatheter valve replacement.	This is intended to capture transcatheter valve replacements.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1310	PrevProcPercVR epair	Indicate whether a previous procedure included a percutaneous valve repair.	This is intended to capture valve repairs done using percutaneous devices.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
1340	IndReop	Indicate reason for this repeat valve procedure.	The intent is to determine whether this valve procedure is needed to correct or enhance a previous valve procedure or is to address a different valve or other cardiac issue. **If the current procedure is not a valve procedure, leave this field blank.**	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record
August 2012	Pt. had previous MV Repair and TV Repair. He has developed mitral stenosis and now the MV is replaced. The anterior leaflet was resected. Would this be considered Repair Failure? Is there a time frame?		This is a failed repair, there is no time limit since the goal of MV repair is to avoid replacement.	
Aug 2012	Pt. had mitral valvuloplasty via sternotomy 35 yrs. ago; now is admitted with severe MV stenosis for replacement. Is this "failed repair" or "other"?		This is a failed repair since it was an open procedure. A perc valvuloplasty would not be counted as a previous repair.	
October 2011	If the patient had prior repairs of the MV and the TV and presents with a central regurgitant MV jet and issues with the TV size & position, which valve do I choose?		Choose the most critical problem- the reason that brought the patient to the OR. In this case it is most likely the Mitral valve, failed repair.	
July 2011	If the patient had a previous valve and you are now doing a CABG how do answer this?		Answer yes to field 1216 (previous valve) and leave this field blank- see instructions above.	
1350	NonStVDys	If non structural valve dysfunction is chosen as the	1- Paravalvular leak (leak around the valve) 2- Hemolysis (valve causes destruction of red blood cells)	Anesthesia pre-op Consultations

		reason for this procedure, indicate the type.	3- Entrapment by pannus, tissue or suture (mobility of leaflets obstructed or impaired) 4- Sizing or positioning issue (valve size or position suboptimal) 5- other	History & Physical Operative record Previous admission record
October 2011	What is the difference between structural and non-structural prosthetic valve dysfunction?		Structural valve deterioration refers to changes intrinsic to the valve, such as wear, fracture, poppet escape, calcification, leaflet tear, stent creep, and suture line disruption of components of a prosthetic valve; it also refers to new chordal rupture, leaflet disruption, or leaflet retraction of a repaired valve. Nonstructural dysfunction is any abnormality not intrinsic to the valve itself that results in stenosis or regurgitation of the operated valve or hemolysis. The term nonstructural dysfunction refers to problems (exclusive of thrombosis and infection) that do not directly involve valve components yet result in dysfunction of an operated valve, as diagnosed by reoperation, autopsy, or clinical investigation.	
1410	PrValDt Known	Indicate whether the exact date of the previous valve procedure is known.	The goal is to capture the time interval between the previous valve procedure and this one. This will help identify longevity of procedures and devices. If the patient had multiple previous procedures, choose the previous valve procedure related to this valve case or the most recent procedure if case is unrelated. Example: A patient has MVR 7/1/1995, has AVR 7/1/2000 and presents now for redo MVR. Enter the MVR date. If the same patient presented for Tricuspid repair, choose the AVR date.	Anesthesia pre-op Consultations History & Physical Operative record Previous admission record Wallet card
1420	PrValve Date	Indicate the date on which the previous valve procedure was performed.	See above	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1430	PrValve Months	If the exact date is not known, enter the best estimate of the number of months since the relevant valve procedure.	The goal is to determine procedure and/or device longevity. This information will assist patients and providers to make informed choices concerning options for treating valvular heart disease. Some patients may not know the date but should be able to report the number of months or years since the procedure. Enter 240 (the maximum) if the procedure was more than 20 years ago. Example: The patient states his AVR was 6 years ago, enter 72 months (6 years x 12mo/yr)	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report

1440	PrOthCar	Capture whether patient had a previous intrapericardial or great vessel procedure performed.	Reference section M "Other Cardiac" to assist with identification of the intended procedures to capture. These are procedures performed on the aorta, pulmonary arteries or veins and/or the intrathoracic inferior/superior vena cava. This may also include but is not limited to left ventricular aneurysm (LVA), acquired ventricular septal defect (VSD), surgical ventricular restoration (SVR), transmyocardial revascularization (TMR), cardiac trauma, pericardial window, cardiac tumor, or heart transplant. Code "Yes" for a thoracoabdominal aortic surgery since this would include an aortic procedure performed above the diaphragm. Code "Yes" for a pre-operative hx of pericardial window. Code "No" for abdominal aortic surgery. Code "No" for a history of an insertion of a Greenfield filter.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1445	POArr	Indicate whether the patient had previous arrhythmia procedure.	Include MAZE procedures and ablations, whether surgical or catheter ablations. Do not include cardioversion or defibrillation.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1450	PrOthCongen	Indicate whether patient had a previous congenital heart surgery and/or percutaneous procedure performed. May include, but is not limited to VSD, ASD, TOF and PFO.	These may include repairs of simple defects such as PDA, ASD, VSD or complex repairs for conditions such as TOF or TGV. Advances congenital heart surgeries enable children with complex congenital heart disease to reach adulthood and they may present needing revisions.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1460	PrOCAICD	Indicate whether the patient had a previous implant of an Implantable Cardioverter/Defibrillator. This does not include lead placement only.	ICD or implantable cardioverter defibrillator may be implanted either in the abdominal area or upper left or right chest area. Patient age and size often determines the location. May be implanted to treat very rapid and or lethal heart rhythms. Count dual chamber pacing ICDs, do not include lead placement if no device was inserted.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1470	PrOCPace	Indicate whether a previous permanent pacemaker was placed any time prior to this surgical procedure. This does not include lead placement only	Do not include lead placement if no device was inserted, do include dual chamber pacing ICDs	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1480	POCPCI	Capture percutaneous coronary interventions.	PCIs may include coronary angioplasties, stents and/or atherectomies done by interventional cardiologists.	Anesthesia pre-op Consultations History & Physical Operative record

				Previous records Radiology/cath report
August 2013	Update.		Following additional discussions, effective with your July 1, 2013 data, an attempted PCI should be coded as a Previous CV intervention-PCI. This is in an effort to harmonize with ACC-NCDR.	
July 2013	A PCI is attempted and the cardiologist is unable to cross the lesion with a wire but causes coronary artery dissection, the patient becomes hemodynamically unstable and is taken to the OR. Do you code previous CV intervention PCI?		~~No, this is not a previous CV intervention PCI.~~ Amended above.	
Aug 2012	Is a coronary thrombectomy considered a previous PCI?		Yes	
Aug 2012	Pt. transferred to our facility with NSTEMI following cath and stent placed at outside hospital. The stent was placed to bridge for transfer here for CAB. (Is this Hybrid 1480 PCI performed within this episode of care?) Once here, the pt. was noted to have a pseudo aneurysm which was injected. Subsequently the anticoagulants were reduced; pt. had another STEMI and was brought to our cath lab. Stent from other hospital was occluded. A wire crossed but no balloon or stent would cross. Some flow was re-established with wire crossing. Is this PCI failure? Hybrid Procure CAB and PCI Performed (3165)?, Unplanned (3170) ? no angioplasty or stent was done, would PCI procedure performed (3180) be blank?		The first intervention at the outside hospital was a prev PCI and is not a hybrid. The intervention that was done at the receiving hospital is considered an unplanned hybrid for PCI failure.	
Aug 2012	Patient presented with MI complicated by CHF and pulmonary edema. Brought to cath lab on 2/6 and found to have 100% LAD, 90% OM1, VSD with L to R shunt. PCI done to OM1 and device closure of VSD were done in cath lab. Post intervention, remained		This is not a hybrid, it is a previous percutaneous cardiac Intervention (PCI) the indication for surgery is PCI Complication. PCI is not only coronary interventions, in this case the VSD closure device failed.	

	in CHF, gradually developed pulmonary edema. TEE showed residual VSD with L to R shunt. IABP placed on 2/9 and remained in until brought to OR on 2/20 for closure of VSD, plication of LV aneurysm and CABG x 1 to LAD. The OM stent was fine, VSD closure was inadequate. Is this unplanned? It seems if the VSD closure had worked they might not have gone to the OR.			
1481	POCPCIWhen	Capture PCIs done during this episode of care	This field is intended to capture PCIs done during the same episode of care prior to the surgical procedure. Include patients who were transferred for surgery from another facility following PCI. Include patients who had PCI prior to surgery as part of a planned, staged hybrid procedure. Do not code PCIs done after the surgical procedure.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
October 2011	What is the episode of care for the STS Database? If a patient has a STEMI with a thrombectomy of the LAD and discharged and referred for CABG which is done 10 days later. Is this the same episode of care?		Do not code as the same episode of care if the patient is discharged home between interventions.	
1490	POCPCInd Surg	Indicate why the patient is having surgery after PCI.	Indicate whether surgery was required due to: -PCI complication -PCI did not achieve desired effect but the patient's clinical condition did not deteriorate -Planned hybrid procedure Each of these clinical scenarios implies a different level of risk and may influence operative approach and outcomes.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1500	POCPCISt	Indicate whether the previous PCI included placement of an intracoronary stent.	A stent, deployed using an angioplasty device, is a metal mesh tube left in the coronary to increase the lumen diameter and prevent vessel recoil.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1510	POCPCIStTy	If the patient has an intracoronary stent, capture the type of stent if known.	Some stents are metal mesh and others are coated with drugs.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report
1520	POCPCIIn	Indicate the interval of time between the PCI procedure and the current surgical procedure.	The choices are ≤ 6 hours or > 6 hours. The timing of surgery after PCI may influence outcomes such as renal failure due to contrast given during PCI.	Anesthesia pre-op Consultations History & Physical

				Operative record Previous records Radiology/cath report
1530	POCO	Indicate other procedures involving the heart and/or great vessels not represented in the preceding fields.	If the patient had any other procedure involving the heart and/or great vessels not mentioned above, choose this field.	Anesthesia pre-op Consultations History & Physical Operative record Previous records Radiology/cath report

F. PREOPERATIVE CARDIAC STATUS

The intent is to capture the preoperative status of the patient prior to surgery and any conditions that may impact the surgical risk.

SeqNo	ShortName	Data Field Intent	Field Name Clarification	Source Document
1540	PrevMI	Indicate if the patient has had at least one documented previous myocardial infarction at any time prior to this surgery.	Indicate if the patient has a history of MI. A myocardial infarction is evidenced by **any of the following**: • A rise and fall of cardiac biomarkers (preferably troponin) with at least one of the values in the abnormal range for that laboratory [typically above the 99th percentile of the upper reference limit (URL) for normal subjects] together with at least one of the following manifestations of myocardial ischemia: a. Ischemic symptoms; b. ECG changes indicative of new ischemia (new ST-T changes, new left bundle branch block, or loss of R- wave voltage), c. Development of pathological Q- waves in 2 or more contiguous leads in the ECG (or equivalent findings for true posterior MI); d. Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality; e. Documentation in the medical record of the diagnosis of acute myocardial infarction based on the cardiac biomarker pattern in the absence of any items enumerated in a-d due to conditions that may mask their appearance (e.g., peri-operative infarct when the patient cannot report ischemic symptoms; baseline left bundle branch block or ventricular pacing) • ECG changes associated with prior myocardial infarction can include the following (with or without prior symptoms): a. Any Q-wave in leads V2-V3 >=0.02 seconds or QS complex in leads V2 and V3. b. Q-wave >=0.03 seconds and >=0.1 mV deep or QS complex in leads I, II, aVL, aVF, or V4-V6 in any two leads of a contiguous lead grouping (I, aVL, V6; V4-V6; II, III, and aVF). c. R-wave >=0.04 seconds in V1-V2 and R/S >=1 with a concordant positive T-wave in the absence of a conduction defect. • Imaging evidence of a region with new loss of viable myocardium at rest in the absence of a non-ischemic cause. This can be manifest as: a. Echocardiographic, CT, MR, ventriculographic or nuclear imaging evidence of left ventricular thinning or scarring and failure to contract appropriately (i.e., hypokinesis, akinesis, or dyskinesis) b. Fixed (non-reversible) perfusion defects on nuclear radioisotope imaging (e.g., MIBI, thallium) • Medical record documentation of prior myocardial infarction. **Reference: ACCF/AHA Key Elements and Data Definitions 10/2010**	Consultations ECG/EKG History & Physical Laboratory report Nuclear imaging report

1550	MIWhen	Report the time interval of last documented MI to time of surgery.	Time of surgery is documented as the hour the patient entered the operating room. Select the time-interval category based on information available on when the MI occurred. MI occurrence is the time of diagnosis and/or when confirmation of the last MI is documented prior to surgery.	Admit or ED notes Anesthesia record Consultations History & Physical Physician progress notes
March 2012	If the EKG indicates a prior MI of undetermined age how do I code field 1550		Code as >21 days if the patient has no recently reported or documented symptoms. More recent infarctions would likely be "evolving" on the EKG.	
1570	AnginalClass	Indicate the anginal classification within the two weeks prior to surgery. Reminder: Angina = chest pain	Canadian Cardiovascular Angina Class Indicate the patient's CCA Class: • Asymptomatic. No angina. • CCA I. Ordinary physical activity (for example, walking or climbing stairs) does not cause angina; angina occurs with strenuous or rapid or prolonged exertion at work or recreation • CCA II. Slight limitation of ordinary activity (for example, angina occurs walking or stair climbing after meals, in cold, in wind, under emotional stress, or only during the few hours after awakening; walking more than 2 blocks on the level or climbing more than 1 flight of ordinary stairs at a normal pace; and in normal conditions) • CCA III. Marked limitation of ordinary activity (for example, angina occurs with walking 1 or 2 blocks on the level or climbing 1 flight of stairs in normal conditions and at a normal pace) • CCA IV. Inability to perform any physical activity without discomfort; angina syndrome may be present at rest **Reference:** http://www.ncbi.nlm.nih.gov/pubmed/15054509	Admit or ED notes Anesthesia record Consultations History & Physical Physician progress notes
Aug 2012	Documentation states SOB on exertion and the pt. denied chest pain. Stress test abnormal. Cath demonstrated 2 vessel disease. No other documentation of symptoms or diagnosis of angina.		This is no symptoms, no angina.	
Aug 2012	53 yo has syncopal episode at home, brought to hospital and found to have severe aortic stenosis. Cath found 70% LM disease. Underwent AVR/CAB. What is cardiac presentation for this pt. when there are no symptoms prior to syncopal episode?		This is no symptoms, no angina. Capture syncope in field 1001	

Aug 2012	Pt. has VF arrest in the field, witness say he was sitting on bench and passed out. He is intubated and successfully resuscitated. He has no documented angina. Should angina class be no symptoms?		This is no symptoms, no angina.	
March 2012	How is angina coded when the only chest pain the patient experienced was during an exercise stress test?		Code no angina, since this system is designed to classify angina during activities of daily living. Do not capture angina that only occurred during diagnostic testing.	
1580	CHF	Indicate if there is physician documentation or report that the patient has been in a state of heart failure within the past 2 weeks.	The intent is to capture the patient's actual status in the weeks before surgery, the new diagnosis or exacerbation of an existing heart failure condition. <u>DO NOT code stable or asymptomatic compensated failure or patients whose symptoms improved after medical therapy. A low ejection fraction (EF) without clinical presentation does not qualify for history of heart failure.</u>	Admit or ED notes Chest X-Ray Consultations History & Physical Medication administration record Outpatient record Radiology reports
October 2011	The physician documents new onset CHF with an EF of 25% and SOB. There is no indication of what level of activity causes the SOB. How do I code NYHA classification?		You cannot code the NYHA classification if there is no supportive documentation in the record. Code yes to Heart Failure and leave NYHA classification blank.	
1585	ClassNYH	Capture the highest New York Heart Classification (NYHA) within two weeks prior to surgery. NYHA classification represents the overall functional status of the patient **in relationship to heart failure.**	**NYHA is for congestive heart failure (CHF).** Select the **highest level** of heart failure within the two weeks leading up to episode of hospitalization or at the time of the procedure. If the NYHA class is not documented, use the guidelines below to assign a class based on documented symptoms. - **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, dyspnea, or anginal pain. Limiting symptoms may occur with marked exertion. - **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, dyspnea, or anginal pain). - **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, dyspnea, or anginal pain. - **Class IV**: Patient has dyspnea at rest that increases with any physical activity. Patient has cardiac disease resulting in inability to perform any physical activity without discomfort. Symptoms may be present even at rest. If any physical activity is undertaken, discomfort is increased.	Admit or ED notes Consultations History & Physical Outpatient record

			Reference: **ACC/AHA The Criteria Committee of the New York Heart Association. In Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Great Vessels, 9th ed. Boston, Mass: Little, Brown & Co.; 1994: 253-256.**	
Aug 2012	Pt. is diagnosed with STEMI and has a cardiac arrest. Prior to surgery he has documented respiratory failure and pulmonary edema. Should NYHA Class be IV based on the fact he was intubated and remained intubated for days?		This should be coded as heart failure, NYHA class IV because of pulmonary edema secondary to cardiac failure, whether or not he remained intubated.	
1590	PriorHF	Indicate history of heart failure occurring more than 2 weeks prior to current episode of care.	The goal is to capture patients who have improved following medical management and do not exhibit clinical signs of failure within 2 weeks of surgery but have documented failure symptoms prior to that.	Admit or ED notes Consultations History & Physical Outpatient record
1610	CardPres	Indicate the type of angina present prior to this surgical intervention.	1. No symptoms, no angina 2. Symptom unlikely to be ischemic- Pain, pressure or discomfort in the chest, neck or arms NOT clearly exertional or NOT otherwise consistent with pain or discomfort of myocardial ischemic origin. This includes patients with non-cardiac pain (e.g. pulmonary embolism, musculoskeletal, or esophageal discomfort), or cardiac pain not caused by myocardial ischemia (e.g., acute pericarditis). 3. Stable angina without a change in frequency or pattern for the 6 weeks prior to this cath lab visit. Angina is controlled by rest and/or oral or transcutaneous medications. 4. Unstable angina: There are three principal presentations of unstable angina: a. Rest angina (occurring at rest and prolonged, usually >20 minutes); b. New-onset angina (within the past 2 months, of at least Canadian Cardiovascular Society Class III severity); or c. Increasing angina (previously diagnosed angina that has become distinctly more frequent, longer in duration, or increased by 1 or more Canadian Cardiovascular Society class to at least CCS III severity). 5. Non-STEMI The patient was hospitalized for a non-ST elevation myocardial infarction (STEMI) as documented in the medical record. Non-STEMIs are characterized by the presence of both criteria: a. Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital's laboratory parameters with a clinical presentation which is consistent or suggestive of ischemia. ECG changes and/or ischemic symptoms may or may	Cardiac cath report Consultations Critical care notes Medication administration record Nursing assessment Operative record Physician progress

			not be present. b. Absence of ECG changes diagnostic of a STEMI (see STEMI). 6. ST-Elevation MI (STEMI) or equivalent. The patient presented with a ST elevation myocardial infarction (STEMI) or its equivalent as documented in the medical record. STEMIs are characterized by the presence of **both criteria**: a. ECG evidence of STEMI: New or presumed new ST-segment elevation or new left bundle branch block not documented to be resolved within 20 minutes. ST-segment elevation is defined by new or presumed new sustained ST-segment elevation at the J-point in two contiguous ECG leads with the cut-off points: ≥0.2 mV in men or ≥ 0.15mV in women in leads V2-V3 and/or ≥ 0.1 mV in other leads and lasting greater than or equal to 20 minutes. If no exact ST-elevation measurement is recorded in the medical chart, physician's written documentation of ST-elevation or Q waves is acceptable. If only one ECG is performed, then the assumption that the ST elevation persisted at least the required 20 minutes is acceptable. Left bundle branch block (LBBB) refers to new or presumed new LBBB on the initial ECG. b. Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital's laboratory parameters and a clinical presentation which is consistent or suggestive of ischemia Note: For purposes of the Registry, ST elevation in the posterior chest leads (V7 through V9), or ST depression that is maximal in V1-3, without ST-segment elevation in other leads, demonstrating posterobasal myocardial infarction, is considered a STEMI equivalent.	
Aug 2012	53 yo has syncopal episode at home, brought to hospital and found to have severe aortic stenosis. Cath found 70% LM disease. Underwent AVR/CAB. What is cardiac presentation for this pt. when there are no symptoms prior to syncopal episode?		No symptoms, no angina.	
Aug 2012	Documentation states SOB on exertion and the pt. denied chest pain. Stress test abnormal. Cath demonstrated 2 vessel disease. No other documentation of symptoms or diagnosis of angina.		No symptoms, no angina.	
March 2012	The patient collapsed while eating dinner and had no chest pain. EMS found him to be in VF. He was successfully defibrillated, woke up, troponin bumped but quickly fell and there were no EKG changes. What is presentation?		Code 1601 as no symptoms, no angina (think of this as no anginal symptoms) Capture syncope (1001) and recent VF (1650, 1660)	

March 2012	How do you code this for a patient who had an MI, is discharged and comes back 2 weeks later for surgery?		Code as Unstable Angina (see definition above) and capture prior MI (1540) in the appropriate time window (1550)	
October 2011	Shouldn't VTach and syncope be coded here if they are presenting symptoms of CAD?		No, this field is intended to capture angina (chest pain).	
Aug 2011	Many patients present with new onset chest pain, increasing in the weeks prior to admission but do not have rest pain. How is this coded?		Code as unstable angina	
Aug 2011	If the presentation is a ventricular arrhythmia and syncope, how is this coded?		Code no symptoms, no angina	
1620	CarShock	At the time of the procedure (when the patient entered the operating room for surgery), was the patient in cardiogenic shock?	Indicate whether the patient was, at the time of procedure, in a sustained (>30 minutes) clinical state of end organ hypoperfusion due to cardiac failure according to the following criteria: persistent hypotension (Systolic BP < 80 or mean arterial pressure 30 mmhg lower than baseline) with a severe reduction in Cardiac Index (< 1.8 without mechanical or inotropic support or <2 with mechanical or inotropic support). There are adequate or elevated filling pressures. The clinical picture can range from hypoperfusion (altered mental status, cool extremities, slow capillary refill, and decreased urine output) to profound shock (unresponsive, cold cyanotic extremities, anuria). **Reference:** http://circ.ahajournals.org/cgi/content/full/117/5/686	Cardiac cath report Consultations Critical care notes Nursing assessment Operative record Physician progress
1630	Resusc	Indicate whether the patient required cardiopulmonary resuscitation within one hour before the start of the operative procedure which includes the institution of anesthetic management.	CPR must have been either started, ongoing or concluded within one hour before the start of the operative procedure. This may include complete circulatory support such as ECMO initiated emergently prior to surgery. Do not code yes for resuscitation started after induction of anesthesia, the goal is to capture patients who required CPR prior to entering the OR.	Cardiac arrest notes Cardiac cath report Critical care notes Operative record Physician progress notes

1650	Arrhyth When	Is there a history of preoperative arrhythmia (sustained ventricular tachycardia, ventricular fibrillation, atrial fibrillation, atrial flutter, second or third degree heart block) that has been treated with any of the following modalities: • Ablation therapy • Implantable cardioverter/defibrillator (ICD) • Pacemaker • Pharmacological treatment • Electrocardioversion	Choose none, remote (more than 30 days pre op) or recent (within 30 days of procedure). The arrhythmia must have been treated and/or clinically documented with one or more of the definitional list of therapies. These do not include arrhythmias such as 1st degree heart block, occasional premature ventricular contractions (PVC's) or supraventricular tachycardia (SVT). If the patient had a history of an arrhythmia (i.e. a-fib or V-tach) and is currently on medication to control rate and rhythm, and presents in sinus rhythm, code the patient as having the arrhythmia. To define "treated for an arrhythmia": a patient is considered to be treated for arrhythmia if they are on a medication specifically to treat an arrhythmia. Today, most arrhythmias are treated with antiarrhythmics. Coumadin would not be considered a treatment for A-fib. Patients may take Digoxin to treat arrhythmias. In the past Digoxin was used to treat A-fib, but patients can also be on Digoxin to increase contractility, etc. Therefore, do not assume that all patients that are on Digoxin are being treated for A-fib.	Consultations ECG/EKG History and Physical
October 2011	If the patient has a permanent pacemaker for complete heart block that was inserted several years ago, do I code recent arrhythmia?		Remote arrhythmias include chronic or resolved arrhythmias, such as the one you describe. Recent arrhythmias include acute (within 30 days), newly diagnosed and newly treated arrhythmias.	
October 2011	If the patient has a pacemaker or ICD do you have to check to see if it fired within 30 days to code recent arrhythmia?		No. If the device was placed more than 30 days prior to procedure, code remote.	
1660	ArrhyVtach	Indicate whether sustained ventricular tachycardia or fibrillation was present within 30 days of the procedure.	V-tach rhythm must be sustained/persistent or paroxysmal sufficient as to require some type of intervention (pharmacological and/or electrical) to interrupt and cease the arrhythmia. Do not include short runs of VT.	Consultations ECG/EKG History & Physical Nursing assessment Outpatient record Physician progress notes

1670	ArrhyVtachHrtBlk	Indicate whether Second Degree Heart Block was present within 30 days prior to the procedure.	In second degree heart block, some signals from the atria don't reach the ventricles. This causes "dropped beats." On an ECG, the P wave isn't followed by the QRS wave, because the ventricles weren't activated. There are two types: Type I second-degree heart block, or Mobitz Type I, or Wenckebach's AV block. Electrical impulses are delayed more and more with each heartbeat until a beat is skipped. This condition is not too serious but sometimes causes dizziness and/or other symptoms. Type II second-degree heart block, or Mobitz Type II. This is less common than Type I but generally more serious. Because electrical impulses can't reach the ventricles, an abnormally slow heartbeat may result. In some cases a pacemaker is needed.	Consultations ECG/EKG History & Physical Nursing assessment notes Outpatient record Physician progress notes
1680	ArrhyVtach SicSinSyn	Indicate whether Sick Sinus Syndrome was present within 30 days of the procedure.	Sick sinus syndrome is a collection of heart rhythm disorders caused by dysfunction in the SA node, the heart's main pacemaker. SSS may present as: Sinus bradycardia -- slow heart rates from the natural pacemaker of the heart Tachycardias -- fast heart rates Bradycardia-tachycardia -- alternating slow and fast heart rhythms	Consultations ECG/EKG History & Physical Nursing assessment Outpatient record Physician progress notes
1690	ArrhyTHB	Indicate whether third degree heart block was present within 30 days of the procedure.	Heart block is applicable only if the patient has or did have 3rd degree heart block (complete heart block) within 30 days of the surgical procedure. Complete heart block, also referred to as third-degree heart block, or third-degree atrioventricular (AV) block, is a disorder of the cardiac conduction system where there is no conduction through the AV node. Therefore, complete dissociation of the atrial and ventricular activity exists.	Consultations ECG/EKG History & Physical Nursing assessment Outpatient record Physician progress notes

1700	ArrhyAfib	Indicate whether atrial fibrillation or flutter was present within 30 days of the procedure.	In atrial fibrillation, the electrical signals that coordinate the muscle of the upper chambers (atria) of the heart become rapid and disorganized; resulting in an irregular heart beat (arrhythmia) often greater than 300 beats per minute. AFib and AFL usually are not life-threatening if treated properly. The likelihood of developing these arrhythmias increases with age. After age 65, between 3 percent and 5 percent of people have AF. AF may last a short time and end spontaneously (called paroxysmal AF) or it may continue indefinitely (persistent or permanent AF). Many patients with paroxysmal AF eventually develop permanent AF. The signs and symptoms of AF vary, and may include a sudden flutter of the heart, anxiety, shortness of breath, weakness and difficulty exercising, chest pain, sweating, dizziness or fainting. AF may have no known cause, or it may be related to coronary artery disease, thyroid disease, high blood pressure, structural defects of the heart and its valves, lung disease or other disorders. AF is diagnosed by electrocardiogram (ECG), or with devices that are worn by the patient to monitor the heart over time (Holter monitors and event recorders). AF may increase the risk of blood clots and stroke. Medications can be prescribed to prevent blood clots from forming. AF sometimes requires treatment with medications, controlled electric shocks to the heart or procedures that destroy the heart tissue that gives rise to the irregular heart rhythm. Less often, a pacemaker or other device is implanted to monitor and control the heart's rhythm.	Consultations ECG/EKG History & Physical Nursing assessment Outpatient record Physician progress notes
1701	ArrhyAfibTy	Indicate whether preoperative Afib/Aflutter is paroxysmal or continuous/persistent.	Paroxysmal AF is defined as episodes which terminate spontaneously within 7 days of recognized onset. Persistent AF involves sustained episodes lasting more than 7 days. This includes patients with longstanding AF. **Reference: ACC/AHA/ESC Guidelines for the Management of Patients with Atrial Fibrillation.** http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.106.177031v1	Consultations ECG/EKG History & Physical Nursing assessment Outpatient record Physician progress notes

G. PREOPERATIVE MEDICATIONS **The intent is to capture current pharmacologic management of the patient. Medication lists containing the most commonly used drugs in these classes, with generic and trade names are posted in the appendix and will be updated as needed. Combination drugs should be captured in both appropriate categories.**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
October 2011	Why don't all pre op medications have the same timing?		Medications have different pharmacology and metabolism, therefore the timing is based on the therapeutic action of each medication.	
October 2011	Can contraindications documented by a pharmacist be considered?		Yes, Pharmacists' documentation of a contraindication should be considered appropriate documentation.	
1710	MedBeta	Indicate whether or not the patient received beta blockers within 24 hours preceding surgery, or if beta blocker was contraindicated. The contraindication must be documented in the medical record by a physician, pharmacist, nurse practitioner, or physician assistant. This is an NQF endorsed measure and remains part of the CABG composite.	Yes: **Given within 24 hours prior to incision**. This includes onetime doses given prior to the incision No: Not given Contraindicated: Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival), check "Contraindication." Otherwise, do not check "Contraindication." Beta blockers have been proven to increase survival in cardiac patients. For the treatment of: 1. High blood pressure 2. Treating chest pain or angina 3. Controlling irregular heart rhythms, prevention of post op Afib 4. Slowing ventricular rate response 5. Treating congestive heart failure *NQF Measure Description* Percent of patients aged 18 years and older undergoing isolated CABG who received beta blockers within 24 hours preceding surgery *Numerator* Number of patients undergoing isolated CABG who received beta blockers within 24 hours preceding surgery *Numerator Time Window* Within 24 hours preceding surgery *Denominator* All patients undergoing isolated CABG *Denominator Time Window* 12 months *Exclusions* Cases are removed from the denominator if preoperative beta blocker was contraindicated **Reference:** **"Preoperative Beta-Blocker Use and Mortality and Morbidity Following CABG Surgery in North America." Ferguson TB Jr et al JAMA 2002 May 1; 287(17):2221-7**	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record

October 2011	A recent study questions the use of routine beta blockers pre op for CABG. Will this measure still be used as a quality measure?		This remains a quality indicator for CABG.	
October 2011	The patient has a coronary artery dissection in the cath lab, develops flash pulmonary edema and undergoes emergency surgery. Is this considered a contraindication to pre op beta blocker?		Emergent and emergent salvage cases will be excluded from the denominator for pre op beta blockers.	
1730	MedACEI48	Indicate whether the patient received ACE inhibitors or ARBs within 48 hours preceding surgery.	This is not a quality measure, choose yes or no, there is no reason to document contraindications. The primary use is for the treatment of hypertension, but is also an essential treatment for congestive heart failure (reduces the workload of the heart).The drug action is to inhibit the release of the hormone angiotensin II that constricts blood vessels causing an increase in blood pressure. Therefore, blood vessels dilate to increase systemic blood flow to the heart. Some ACE inhibitors have additional diuretic components to increase the elimination of excess fluid. Yes: Received an ACE inhibitor or ARB within 48 hours preceding surgery. (**surgery = entry into the OR**) No: Did not receive an ACE inhibitor or ARB within 48 hours preceding surgery See ACE-I/ARB Table for a list of the more common ACE-I/ARB medications. These tables are not meant to be all inclusive.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
1740	MedNitIV	Indicate whether the patient received IV Nitrates within 24 hours preceding surgery.	Nitrates act by increasing dilatation of the coronary arteries, thereby increasing blood flow to the myocardium and decreasing myocardial ischemic changes. Trade Name Nitroglycerin Received IV nitrates within 24 hours preceding surgery. **(surgery = entry into the OR)** Did not receive IV nitrates within 24 hours preceding surgery Example: A patient had 400 mcg of NTG intracoronary during a cardiac cath less than 24 hours pre- op: Do not code as preoperative IV NTG.	Admission assessment History & Physical Medication administration record Nursing notes Physician order sheet Pre-anesthesia record
1750	MedACoag	Indicate whether the patient received IV and/or subcutaneous anticoagulants within 48 hours preceding surgery. Do NOT include Coumadin or one-time boluses of Heparin.	Anticoagulant therapy inhibits platelet aggregation, is used to treat and prevent blood clots, decreasing the viscosity of the blood. Do not include heparin doses used during the cardiac cath. The goal is to capture ongoing therapy. Preceding surgery where **surgery = entry into the OR.** See Anticoagulant Table for a list of the more common Anticoagulant medications. This table is not meant to be an all-inclusive list.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record

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July 2011	How is Pradaxa captured?		Pradaxa (dabigatran) is an anticoagulant from the class of thrombin inhibitors. Code 1750 yes and 1760-Thrombin Inhibitor.	
Aug 2011	How is Xarelto (rivoroxaban) captured?		Capture it as a thrombin inhibitor.	
1760	MedACMN	Indicate the name of the IV and/or subcutaneous anticoagulant the patient received within 48 hours preceding surgery. Heparin (Unfractionated) Heparin (Low Molecular) Thrombin Inhibitors Other	Preceding surgery where **surgery = entry into the OR.** **See med list**	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
1770	MedAArrhy	Indicate whether patient was on antiarrhythmic medication therapy prior to surgery.	Intended to capture ongoing medication administration prior to this procedure and not one-time dosing such as lidocaine in the E.D. Preceding surgery where **surgery = entry into the OR.**	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
July 2013	For the patient who has a history of atrial fibrillation 15 years ago and has been on Lopressor ever since and remains in normal sinus rhythm, how do you code preoperative medication antiarrhythmics?		To code yes to preoperative medication antiarrhythmics, there must be specific documentation in the medical record that describes Lopressor is being prescribed for the treatment of atrial fibrillation.	
October 2011	Our physicians order a onetime dose of Amiodarone prior to surgery. The patient is not on the medication at home. Is this coded “yes” for pre-op antiarrhythmics?		No, the intent is to capture ongoing therapy prior to surgery.	
July 2011	What is the timeframe for pre op antiarrhythmics?		There is none, choose yes if patient was on antiarrhythmics prior to surgery.	
1780	MedCoum	Indicate whether the patient received Coumadin within 24 hours preceding surgery.	Note: While Anisindione is taken orally, it is not Coumadin and should not be captured here. Received Coumadin within 24 hours preceding surgery where **surgery = entry into the OR.** Did not receive Coumadin 24 hours preceding surgery.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record

1790	MedInotr	Indicate whether the patient received IV inotropic agents within 48 hours preceding surgery.	Inotropic agent actions are at the cellular level, increasing intracellular calcium. Cardiovascular effects range from increasing or decreasing the heart rate, force of the heart muscle to contract, peripheral or extremity arterial or venous constriction. The force with which these systems are affected are dose dependent. As well, these drugs may lose their cardiovascular effect causing a negative response at higher dosing levels. Initiation of these drugs typically is in response to some hemodynamic instability in the patient. Note: Natrecor is a vasodilator and, although it is similar to Milrinone, it is not categorized as an inotrope. Received IV inotropes within 48 hours preceding surgery where **surgery = entry into the OR.** Did not receive IV inotropes within 48 hours preceding surgery. See Inotrope Table for a list of the more common inotropic medications. This table is not meant to be an all-inclusive list.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
1800	MedSter	Indicate whether the patient was taking steroids within 24 hours of surgery. This does not include a onetime dose related to prophylaxis therapy (i.e. IV dye exposure for cath procedure or surgery pre-induction period). Non-systemic medications are not included in this category (i.e., nasal sprays, topical creams).	Systemic delivery only; does not include topical or inhaler specific medications or nasal sprays. Does not include onetime dose as part of clinical pathway guideline or procedure/surgical preparatory order. Received steroids within 24 hours preceding surgery where **surgery = entry into the OR.** Did not receive steroids within 24 hours preceding surgery.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
1820	MedASA	Indicate whether or not the patient received Aspirin or Ecotrin within 5 days preceding surgery.	Anti-inflammatory, analgesic and antiplatelet action. Half-life of aspirin products is 5-7 days. Aspirin use may predispose patient to post op bleeding. **Do not include a onetime dose; the intent is to capture ASA therapy.** Received Aspirin or Ecotrin within 5 days preceding surgery where **surgery = entry into the OR.** Did not receive Aspirin or Ecotrin within 5 days preceding surgery. See Aspirin Table for a list of the more common Aspirin medications. This table is not meant to be an all-inclusive list.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record

1830	MedLipid	Indicate whether or not the patient received a lipid lowering medication within 24 hours preceding surgery.	Medications administered to lower total cholesterol, LDL, HDL or triglyceride levels. Patient may be on prescribed medication and have normal cholesterol values, these patients should still be coded as "Yes" for dyslipidemia. Note: Flaxseed oil does not qualify as a lipid lowering medication. Received lipid-lowering medications within 24 hours preceding surgery where **surgery = entry into the OR.** Did not receive lipid-lowering medications within 24 hours preceding surgery. See Antihyperlipidemic Agent Table for a list of the more common Antihyperlipidemic medications. This table is not meant to be an all-inclusive list.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
Aug 2012	If a lipid lowering agent is ordered and refused by the pt., would we capture Yes (ordered but refused) or No? Does this apply to all meds?		No, the intent is to capture administered medications. This applies to all meds for now but will be revised in the next version.	
Aug 2012	TM FAQ (6500) states code fish oil as non -statin [Not on med list]. I have been coding Lovaza (an omega-3 fatty acid that contains fish oil) as a non-statin. My colleague says Lovaza doesn't count as fish oil b/c it is only part fish oil and is for triglycerides which are not lipids. How should Lovaza [not on med list] and other omega-3 fatty acids be counted as non-statins or if the clinician states "fish oil" capsule.		This should be coded as a nonstatin and will be added, however keep in mind the med lists are not all inclusive. Triglycerides are part of the lipid profile.	
1840	MedLipMN	Indicate the type of lipid lowering medication the patient received within 24 hours preceding surgery. -Statin -Non-statin -Both	Indicate which lipid lowering medications the patient was on; statin or non-statin or both, as a combination drug or two separate drugs. Preceding surgery where **surgery = entry into the OR.** See the Statin or Antihyperlipidemic Agent Table for a list. This table is not meant to be an all-inclusive list.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
October 2011	How is fish oil captured?		Capture fish oil as a Non-statin, before and after surgery. (there is no choice for other pre-op and the goal is to be consistent.	

1850	MedADP5Days	Indicate whether the patient has received ADP Inhibitors within 5 days preceding surgery.	ADP stands for Adenosine Diphosphate The medications (ADP inhibitors) inhibit platelet aggregation (clotting). They are often used to treat patients with a history of atherosclerotic cardiovascular disease and potentially reduce the incidence of major cardiovascular events (stroke, peripheral arterial disease events). Peak drug levels are reached within 3-7 days of initiated maintenance dosing, while termination of drug affects are not seen for 5 days after last dose. Received an ADP inhibitor within 5 days preceding surgery where **surgery = entry into the OR.** See appendix for list of medications. Did not receive an ADP inhibitor within 5 days preceding surgery.	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
Aug 2012	Does one dose of Plavix count?		Unlike other single dose administrations, one dose of Plavix does count because of its lasting effects.	
Aug 2012	Med list includes **Dipyridamole** (trade name Persantine) as an Antiplatelet drug, the training manual states: The following drugs should not be captured as ADP inhibitors: Persantine or **Dipyridimole** Aggrenox (Aspirin + Extended Release Dipyridimole).		This is an antiplatelet medication. (that sentence was deleted above)	
1860	MedADPIDis	Indicate the number of days prior to surgery ADP Inhibitor use was discontinued. If less than 24 hours, enter "0."	Peak drug levels are reached within 3-7 days of initiated maintenance dosing, while termination of drug affects are not seen for 5 days after last dose, which may increase risk of bleeding.	History & Physical Medication administration record Physician order sheet
1870	MedAplt5Days	Indicate whether the patient has received antiplatelets within 5 days preceding surgery.	This field is intended to capture any antiplatelet drug that is not captured or reflected by the Aspirin, ADP inhibitor, and GP IIB/IIIA fields. Received an antiplatelet within 5 days preceding surgery where **surgery = entry into the OR.** Did not receive an antiplatelet within 5 days preceding surgery	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
July 2011	Removed Effient (Prasugrel) from example above, the field is intended to capture drugs not included in the other categories.			

1880	MedGP	Indicate whether the patient received Glycoprotein IIb/IIIa inhibitors within 24 hours preceding surgery.	These medications are anti-platelet and thrombin agents. see medication list Received a Glycoprotein IIb/IIIa inhibitor within 24 hours preceding surgery where **surgery = entry into the OR.** Did not receive a Glycoprotein IIb/IIIa inhibitor within 24 hours preceding surgery	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
1890	MedGPMN	Indicate the name of the Glycoprotein IIb/IIIa inhibitor the patient received within 24 hours preceding surgery.	Indicate which of the IIb/IIIa inhibitors listed below was received. Brand/Trade Name — Generic Name ReoPro — Abciximab Integrilin — Eptifibatide Aggrastat — Tirofiban	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record
1900	MedThrom	Indicate whether the patient received Thrombolytic medications within 48 hours preceding surgery	Thrombolytic (fibrinolytic) therapy is the use of drugs to break up or dissolve blood clots, which are the main cause of both heart attacks and stroke. It can predispose a patient to bleeding if given within 48 hours prior to surgery. Preceding surgery where **surgery = entry into the OR.** Preceding surgery where **surgery = entry into the OR.** There are three major classes of thrombolytic drugs: tissue plasminogen activator (tPA), streptokinase (SK), and urokinase (UK).	Admission assessment History & Physical Medication administration record Physician order sheet Pre-anesthesia record

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H. HEMODYNAMICS/CATH/ECHO This section is intended to capture preoperative evaluation of the anatomy and physiology of the heart				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
1910	CarCathPer	Indicate whether cardiac catheterization and/or CT angio was performed.	Capture procedures done within 6 months prior to surgery.	Cardiac Cath Report Radiology Report Consultations
1920	CarCathDt	Indicate the date cardiac catheterization was performed.	If more than one was performed, capture the date closest to surgery.	
October 2011	A patient had a diagnostic cardiac cath at an outside hospital and the next day underwent PCI at my facility. Which date is captured as the cath date?		Capture the date of the diagnostic cath.	
1930	NumDisV	Identify the number of diseased major native coronary systems that have significant (≥ 50%) measurable atherosclerotic disease.	There are three (3) major coronary systems; Left Anterior Descending (LAD), Circumflex and Right Coronary System (RCA). Each system has "branches" that are considered part of their corresponding system. Vessel stenosis or narrowing is measured in percentages (%), most often expressed as a range of "stenosis". Coronary anatomy is also identified as either right or left dominant. Dominance is determined by which system the posterior descending artery (PDA) branches from. In 85% of the population the PDA originates from the RCA, and in 8-10% the PDA originates from the LAD system. The Ramus Intermedius is a vessel that can function as part of the LAD system or as part of the Circumflex system depending on its course. If the Ramus is part of the LAD system and functions much like a diagonal, code 1 vessel disease. If the Ramus is part of the Circumflex system and functions much like an obtuse marginal AND the patient has LAD disease, code 2 vessel disease. If there is any confusion about the distribution of the Ramus as it relates to the LAD or Circumflex coronary artery, consult with your surgeon. The number of diseased vessels may not necessarily match the number of bypass grafts performed. **A patient may never have more than three vessel disease. Once a coronary artery is found to be diseased, for the purposes of the STS, the vessel is considered diseased for the remainder of the patient's life and all subsequent reoperations.** Note: Left main disease (≥ 50%) is counted as TWO vessels (LAD and Circumflex). For example, left main and RCA would count as a total of three. Note: If bypass is performed for an anomalous kinked vessel, this vessel is counted as one diseased or abnormal vessel.	Cardiac cath report ECHO report Consultations CT History & Physical Operative report Physician progress notes

Aug 2012	Patient is a 33 year old 6 week postpartum female who presented with MI due to coronary dissection. Cath report says coronary dissection/intramural hematoma; however and gives percentage of occlusions (70% LAD, 99% OM1, etc.) Surgeon performed LIMA----LAD and RIMA---RI. Cardiologists says patient does not have CAD. My boss says the occlusions are due to dissection/hematoma and not atherosclerosis. So my question is, do I record that she has two vessel disease and give percentage of occlusions on CAB worksheet? Or, under # disease vessels" do I key "none" and on CAB worksheet do I just leave out the % of occlusions (under highest stenosis in native vessel")?		Code the number of vessels and extent of obstruction as described even though this is not atherosclerotic coronary disease. This will be addressed in the next version.	
1940	LMainDis	Identify, pre-operatively, if the left main branch has significant (≥50%) stenotic disease compromising the internal lumen blood flow.	When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.** A stenosis significant enough to impede the coronary blood flow of the left main will compromise the lateral and anterolateral walls of the left ventricle. Stenosis at the ostia of the LAD and circumflex is not considered left main disease for the purpose of Society of Thoracic Surgeons (STS). Stenosis needs to be **in** the left main artery. If the cath report states 40% LM disease, but the Intravascular Ultrasound (IVUS) shows 70% LM, code 70% LM. IVUS is an accurate intra-luminal measurement of the stenosis.	Cardiac cath report Consultations CT IVUS History & Physical Operative report Physician progress report Surgeon estimate report
1941	ProxLAD	Indicate whether the percent luminal narrowing of the proximal left anterior descending artery at the point of maximal stenosis is ≥70%.	Include ostial LAD disease and stenosis occurring in the LAD before the 1st Diagonal branch.	Cardiac cath report Consultations CT IVUS History & Physical Operative report Physician progress report Surgeon estimate report

1950	HDEFD	Indicate whether the ejection fraction was measured prior to the induction of anesthesia. Since an EF is a risk-modeling variable, every effort should be made to capture information from multiple sources.	Some patients may not have had an LV Gram performed during cardiac catheterization due to existing clinical conditions. Ejection fraction (EF) and hemodynamic pressures may be obtained from other sources other than coronary angiogram, such as echo, or MUGA. Because anesthesia can alter the values to be collected, do not collect data from intra-operative transesophageal echo (TEE) after the induction of anesthesia. Collect data from the most recent source before surgery, even if it is several months prior to surgery.	Cardiac cath report Consultations Echocardiogram MUGA or other cardiac scan Physician estimate Physician progress notes
1960	HDEF	Capture the percent of blood emptied from the ventricle at the end of the contraction of the heart.	Use the most recent determination prior to the surgical intervention documented on a diagnostic report, regardless of the diagnostic procedure to obtain it. Enter a 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%). The following guideline is to be used when the EF is not documented as a percentage; but rather, the EF is documented using a word descriptor: Normal = 60% Good function = 50% Mildly reduced = 45% Fair function = 40% Moderately reduced = 30% Poor function = 25% Severely reduced = 20% Note: If no diagnostic procedural report specifying an EF is in the medical record, a value documented in the progress record is acceptable.	Cardiac cath report Consultations Echocardiogram MUGA or other cardiac scan Physician estimate Physician progress notes
1970	HDEFMeth	Indicate how the Ejection Fraction measurement information was obtained preoperatively.	If an ejection fraction is obtained from an MRI (choices LV Gram, Radionuclide, Estimate, & Echo), code as Radionuclide.	Cardiac cath report Consultations Echocardiogram MRI/CT Physician progress notes
October 2011	The preop ECHO states "estimated EF = 55%". Do I choose ECHO or Estimate for Ejection Fraction Method?		Abstract the diagnostic method from which the EF was estimated.	
1980	LVSD	Indicate LV systolic dimension <u>in mm</u> as indicated on cath or echo Note: LVSD=LVIDs Convert cm to mm by multiplying x10 if your dimensions are reported in cm.	During systole, the left ventricle contracts, pumping blood through the body. During diastole, the left ventricle relaxes and fills with blood again. The systolic dimension of the left ventricle demonstrates ventricular emptying and when compared to the end diastolic dimension, left ventricular performance is calculated.	Cardiac cath report Consultations Echocardiogram MRI/CT Physician progress notes
July 2011	Is LV end systolic dimension the same as left ventricular internal dimension in end systole (LVIDs)? (same question for diastole)		Yes, these labels represent the same measurement.	

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Aug 2011	Our numbers are always below the range, example 5.6cm.		This is collected in mm, so if your measurements are in cm, multiply by 10 and enter that number, in this case 56.	
1990	LVEDD	Indicate the Left Ventricular End-Diastolic Dimension <u>in mm</u> Note: LVEDD=LVIDd Convert cm to mm by multiplying x10 if your dimensions are reported in cm.	During systole, the ventricles contract, pumping blood through the body. During diastole, the ventricles relax and fill with blood again. The end-diastolic dimension of the left ventricle demonstrates ventricular filling and when compared to the end systolic dimension, left ventricular performance is calculated.	Cardiac cath report Consultations Echocardiogram MRI/CT Physician progress notes
2020	PASYSMeas	Indicate whether the PA **systolic** pressure was measured prior to incision.	Elevated pulmonary artery pressures are indicative of pulmonary hypertension, mitral valve disease and other pulmonary/cardiac diseases. Normal mean pulmonary artery pressure readings are between 9-17mm of pressure. If there are not any PA pressures recorded or available from heart cath –one may use PA pressure values from Swan Ganz Catheter inserted for surgery.	Cardiac cath report Consultations Echocardiogram MRI/CT Physician progress notes Intraop Record
2030	PASYS	Capture highest PA systolic pressure prior to incision	PA systolic pressure, measured pre-op is preferable but values obtained in OR (awake or after induction) prior to incision can be reported if no other results are available. If more than one preoperative measurement is available, choose the HIGHEST PA systolic pressure recorded before the incision.	Cath Report Echo Report Anesthesia Record Progress Notes
July 2011	If PA systolic pressure is not available is it acceptable to code the peak RV systolic pressure instead? Can intraop pressures be used?		Yes RV and PA systolic pressures will be the same as long as there is no pulmonary valve disease or outflow obstruction. Pressures obtained <u>prior to induction of anesthesia</u> may be used.	
2040	VDAort	Indicate if there is disease of the aortic valve	Aortic valvular disease can be congenital or acquired and cause stenosis, regurgitation or both. If valve stenosis or regurgitation is present, code yes even if there is no procedure being done on the valve. You want to be able to capture the risk associated with stenosis or insufficiency. If etiology is unknown, leave the following field blank.	Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes
Aug 2012	The patient with h/o AVR presents with sinus of Valsalva aneurysm. They explanted the aortic valve and replaced the valve although it was functioning well, do we code the Aortic Valve dz in 2040? If so, as "other"?		No, do not code aortic valve disease unless there is evidence of stenosis or regurgitation on diagnostic tests.	
October 2011	If the patient has disease of the ascending aorta (i.e. Marfan) do you have to say yes to aortic valve disease even though the problem is not the actual valve?		Yes, since this disease disrupts valve function and causes AI. This will need to be changed in the next version	

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October 2011	In version 2.61 there was a choice called "NA" if you did not have valve information. What would you like us to do with the fields that we cannot answer in these sections? I do not want to answer "No valve disease" when I don't have the clinical information to support it. Also, there are times when the tricuspid and pulmonic valves are not reported in the echo. Should these fields be left blank?		Code Valve Disease 'No' when valves are not assessed (or not mentioned) in a diagnostic echo report. Report standards require documentation of abnormalities. This provides an opportunity for improved documentation at your site. Code yes to valve disease to capture valvular insufficiency. It impacts the risk score, so capturing insufficiency is important.	
July 2011	Should only the valve disease related to the valve procedure be reported? Should valve disease be reported if the patient is only having a CABG?		Capture all available valve disease data. If there are no diagnostic studies done on the valves or the valve is not specifically mentioned, mentioned, code NO. Review statement above concerning insufficiency/regurgitation.	
2090	VDAoEt	Indicate primary etiology of aortic valve disease.	Indicate the etiology (cause) of aortic valve disease Causes include: Degenerative Endocarditis Congenital Rheumatic Primary Aortic Disease LV outflow obstruction Supravalvular AS Tumor Trauma Other	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
October 2011	If the patient has endocarditis and a congenital bicuspid aortic valve, which do I code?		Code the issue that brought the patient to the OR, in this case, endocarditis.	
October 2011	83 y/o has severe aortic stenosis, history of scarlet fever (no mention of rheumatic sequela), no mention of valvular etiology but frequent reference to the scarlet fever history. Is etiology "rheumatic" or is "degenerative/senile" more appropriate?		Choose degenerative disease. Rheumatic disease rarely involves just the aortic valve and given the patient's age, the cause is most likely degenerative.	
March 2014	The patient had infective endocarditis and had his aortic valve replaced in 2012. He returns with partial prosthetic dehiscence and associated peri-annular abscess or aneurysm with no preoperative evidence of recurrent or new sepsis. Should the valve etiology be coded as endocarditis?		Yes, code endocarditis.	

2110	VDEndAB	Indicate if an aortic root abscess is present in patient with aortic valve endocarditis	Aortic root abscesses are a frequent occurrence in aortic valve endocarditis and often lead to increased operative mortality and are associated with a high incidence of post-operative aortic regurgitation.	Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes
2120	VDCongenT	Indicate type of congenital Aortic valve disease	Bicuspid aortic valve (aortic valve has 2 cusps instead of 3 cusps) is the most common cause of aortic stenosis in all people. Persons with a bicuspid valve often develop symptoms in their 50's.	Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes
Aug 2012	Is a unicuspid aortic valve coded as 'Congenital, other'?		Yes	
2130	VDPrimAo	Indicate primary aortic disease which caused aortic valve disease	Marfan syndrome is a genetic disorder of the connective tissue. It is sometimes inherited as a dominant trait. It is carried by a gene called FBN1, which encodes a connective protein called fibrillin-1.This syndrome can run from mild to severe. People with Marfan are typically tall, with long limbs and long thin fingers. The most serious complications are the defects of the heart valves and aorta. It may also affect the lungs, eyes, the dural sac surrounding the spinal cord, skeleton and the hard palate. Other Connective Tissue Disorders- such as Ehler-Danlos disorder, polychondritis, scleroderma, osteogenesis imperfecta Atherosclerotic Aneurysm Inflammatory- such as Syphilis or Takayasu Aortic Dissection Idiopathic Root Dilatation	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2140	VDLVOutOb	Indicate type of LV outflow obstruction	HOCM- Hypertrophic cardiomyopathy is a disease of the myocardium in which a portion of the heart muscle is hypertrophied (thickened) without any obvious cause. It has also historically been known as idiopathic hypertrophic subaortic stenosis (IHSS) and asymmetric septal hypertrophy (ASH) and causes obstruction of blood flow out of the left ventricle. Subaortic membrane is a fibrous membrane below the aortic valve that may involve the ventricular septum, the anterior leaflet of the mitral valve, and the aortic valve itself. It may be associated with other structural anomalies of the aortic valve, such as bicuspid aortic valve, and other abnormalities of the left ventricular outflow tract, such as in atrioventricular canal or tunnel subaortic stenosis Subaortic tunnel is a fibromuscular tubular narrowing of the outflow tract that remains relatively unchanged during the cardiac cycle.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist

2150	VDAortTumor	Indicate type of cardiac tumor	Myxomas account for 40-50% of primary cardiac tumors. Approximately 90% are solitary and pedunculated, and 75-85% occur in the left atrial cavity. Up to 25% of cases are found in the right atrium. Most cases are sporadic. Approximately 10% are familial and are transmitted in an autosomal dominant mode. Multiple tumors occur in approximately 50% of familial cases and are more frequently located in the ventricle (13% vs. 2% in sporadic cases). Cardiac papillary fibroelastomas are rare cardiac tumors and have been considered a `benign' incidental finding that may have significant clinical manifestations. Carcinoid tumors are rare, slow-growing cancers that usually start in the lining of the digestive tract or in the lungs. Because they grow slowly and don't produce symptoms in the early stages, the average age of people diagnosed with digestive or lung carcinoids is about 60.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2152	VDStenA	Indicate whether Aortic Stenosis is present.	Capture any degree of aortic valve stenosis present, even if the patient is not scheduled for valve replacement, record if available. The aortic valve controls the direction of blood flow from the left ventricle to the aorta. When in good working order, the aortic valve does not impede the flow of blood between these two spaces. Under some circumstances, the aortic valve becomes narrower than normal, impeding the flow of blood. This is known as aortic valve stenosis, or aortic stenosis, often abbreviated as A.S. AS is described as trace, mild, moderate or severe. Aortic valve stenosis may be caused by aging (leaflets become calcified, thick and stiff), birth defects (congenital bicuspid (2) leaflets) or other disease processes like rheumatic fever. Capture even if the patient is not scheduled for valve repair or replacement.	Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes
2153	VDAoVA	Capture the smallest recorded aortic valve area	The normal adult aortic valve opening is 3.0-4.0 cm^2. Aortic stenosis becomes hemodynamically significant when the area decreases to less than 2 cm^2, as the systolic flow is impeded across the valve. If more than one aortic valve area is reported, choose the SMALLEST.	Cardiac cath report Echocardiogram Physician progress notes (if refers to echo or cath report)

2154	VDGradA	Indicate the highest mean gradient (in mm Hg) across the aortic valve obtained from an echocardiogram or angiogram preoperatively.	When the aortic valve becomes stenotic, it causes a pressure gradient between the left ventricle (LV) and the aorta. The more constricted the valve, the higher the gradient between the LV and the aorta. For example, if the gradient is 20 mmHg, at peak systole, while the LV generates a pressure of 140 mmHg, the pressure that is transmitted to the aorta would only be 120 mmHg. A blood pressure cuff would measure a normal systolic blood pressure; the actual pressure generated by the LV would be considerably higher. In individuals with AS, the left ventricle (LV) has to work harder to overcome the increased afterload caused by the stenotic aortic valve and eject blood out of the LV. The more severe the aortic stenosis, the higher the gradient is between the left ventricular systolic pressures and the aortic systolic pressures.	Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes
2155	VDInsufA	Indicate if there is evidence of aortic valve regurgitation. Enter level of valve function associated with highest risk (i.e. worst performance).	Regurgitation/insufficiency is incompetence of the aortic valve or any of its valvular apparatus which allows diastolic blood flow to flow back into the left ventricular chamber. This may be a chronic or an acute condition. Capture even if patient is not scheduled for valve repair and/or replacement when available. Descriptive terms: None Trace/Trivial Mild Moderate Severe Enter the highest level recorded in the chart, i.e., worst performance level, “Moderately severe” should be coded as “severe”. Code the worst level reported, if echo says moderate and cath says mild, code moderate.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2160	VDMit	Indicate whether Mitral valve disease is present.	The mitral valve is made up of the annulus, anterior and posterior leaflets, and chordae, which attach the leaflets to their respective papillary muscles. A normally functioning valve allows blood to flow unimpeded from the left atrium to the left ventricle during diastole and prevents regurgitation during systole. Normal mitral valve function is dependent not only on the integrity of the underlying valvular structure, but on that of the adjacent myocardium as well. Mitral valve disease is the most common form of heart valve disease in the United States, affecting 5 percent of the population and resulting in over 500,000 hospital admissions per year. There are two general forms of mitral valve disease: mitral regurgitation/insufficiency and mitral stenosis. If valve stenosis or regurgitation is present, code yes even if there is no procedure being done on the valve. You want to be able to capture the risk associated with stenosis or insufficiency. If etiology is unknown, leave the following field blank.	History and Physical Admission notes Cath report Echo Report Consults

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Aug 2012	If there isn't a 2D echo done preop, can I use the valve info off the intra op TEE? Also, if the 2D and TEE don't match (i.e. one says 1+MR and the other says 4+ MR) which do I use?		You can use the OR preop echo if that is the best study available. Choose the highest level of valve dysfunction when there are differences.	
October 2011	Patient had prior MVR. The bioprosthesis degenerated with heavy annular calcification and subsequent severe MR occurred. Should this be coded Annular or Degenerative with the Location as Bileaflet and TYPE as Mitral annular calcification or just other?		Code as other and indicate in field 1240 that there was a previous MVR and the indication for reoperation in field 1340 would be Structural Prosthetic valve deterioration.	
2170	VDMitET	Indicate primary etiology of mitral valve disease.	Annular or Degenerative Disease Endocarditis Rheumatic Ischemic Congenital Hypertrophic Obstructive Cardiomyopathy (HOCM) Tumor Trauma Non-ischemic cardiomyopathy Other	History and Physical Admission notes Cath report Echo Report Consults
Aug 2012	The procedure done was “repair of the prosthetic mechanical valve by excising the pannus obstructing the valvular leaflet”. There was pannus and organized clot that was obstructing the movement of one of the leaflets of the previously placed mechanical valve per surgeon’s operative report. The valve did not need to be replaced. I have coded OTHER for valve etiology. Is that correct? Nothing else listed seemed to fit.		That is correct, choices for prosthetic valves will need to be added. Capture nonstructural prosthetic dysfunction in field 1340 and in 1350 capture the entrapment by pannus.	
Aug 2012	How do I capture the procedure in the case above?		Code yes to MV procedure and yes to repair in fields 4351 and 4352 leaving the rest blank.	
2180	VDMitDegLoc	Indicate the location of the degenerative mitral disease.	Posterior Leaflet Anterior Leaflet Bileaflet	History and Physical Admission notes Cath report Echo Report Consults
2190	VDMitAnDegDis	Indicate the type of mitral valve annular disease.	Pure Annular Dilation Mitral Annular Calcification	History and Physical Admission notes Cath report Echo Report Consults

2210	VDMitIsTy	Indicate type of ischemic mitral disease.	Acute Within 30 days of MI Chronic Greater than 30 days after MI	History and Physical Admission notes Cath report Echo Report Consults
2220	VDMitPMR	Indicate whether papillary muscle rupture occurred.	The **papillary muscles** are located in the ventricles of the heart. They attach to the cusps of the atrioventricular valves (a.k.a. the mitral and tricuspid valves) via the chordae tendinae and contract to prevent inversion or prolapse of these valves. Ischemia due to coronary disease can lead to papillary muscle rupture and valve dysfunction.	History and Physical Admission notes Cath report Echo Report Consults
2221	VDMitTumor	Indicate the type of cardiac tumor.	Myxoma Papillary fibroelastoma Carcinoid Other	History and Physical Admission notes Cath report Echo Report Consults Pathology Report
2230	VDMitFC	Indicate Functional Class of Mitral Disease.	Type I -Normal leaflet motion Type II -Excess Leaflet Motion Type IIIa -Restricted leaflet motion systolic and diastolic Type IIIb -Restricted leaflet motion systolic	History and Physical Admission notes Cath report Echo Report Consults
Aug 2012	How do I code functional class for a prosthetic valve that needs to be replaced?		Leave blank, this is meant for native valves.	
October 2011	Do the following TEE choices crosswalk to the MV functional classes? N1, Prolapse, flail, SAM, restricted		N1= Type I -Normal leaflet motion Prolapse & Flail = Type II -Excess Leaflet Motion SAM- has no MV functional equivalent since it is related to the LV outflow tract Restricted= Type IIIb -Restricted leaflet motion systolic	
2240	VDStenM	Indicate whether Mitral Stenosis is present.	Stenosis is the narrowing of the valve opening. Valve stenosis is most often caused by rheumatic fever, causing the leaflets to become rigid, stiff, thick and/or fused reducing the amount of blood able to be ejected from the left atria into the left ventricle. Mitral stenosis (MS) causes blood to back up, dilate the left atria and create build up of fluid in the lungs (congestive heart failure). Atrial fibrillation is a common arrhythmia in patients with MS.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist

2250	VDMVA	Indicate the most severe level (smallest MV area) of mitral stenosis documented on a diagnostic exam	The normal area of the mitral valve orifice is about 4 to 6 cm^2. Under normal conditions, a normal mitral valve will not impede the flow of blood from the left atrium to the left ventricle during (ventricular) diastole, and the pressures in the left atrium and the left ventricle during ventricular diastole will be equal. When the mitral valve area goes below 2 cm^2, the valve causes an impediment to the flow of blood into the left ventricle, creating a pressure gradient across the mitral valve. Document the smallest valve area in square centimeters. If the cardiac cath indicates a valve area of 2.0 and the echo report indicates 1.8, code 1.8.	Cardiac cath report Echocardiogram Physician progress notes (if refers to echo or cath report)
2260	VDGradM	Indicate the highest mean gradient (in mm Hg) across the mitral valve obtained from an echocardiogram or angiogram preoperatively.	Mitral valve stenosis results from a narrowing of the mitral valve orifice when the valve is open. The high resistance across the stenotic mitral valve causes blood to back up into the left atrium thereby increasing LA pressure. This results in the left atrial (LA) pressure being much greater than left ventricular (LV) pressure during diastolic filling. The gradient is highest during early diastole when the flow across the valve is highest. Normally, the pressure gradient across the valve is very small (a few mmHg); however, the pressure gradient can become quite high during severe stenosis (10-30 mmHg). If more than one gradient is documented in the record, capture the HIGHEST one.	Cardiac cath report Echocardiogram Physician progress notes (if refers to echo or cath report)
2270	VDInsufM	Indicate if there is mitral valve regurgitation, also known as insufficiency. Enter level of valve function associated with highest risk (i.e. worst performance).	Mitral regurgitation/insufficiency may be an acute or chronic condition manifesting itself as increased left heart filling pressures which increase the left ventricular stroke volume (amount of blood ejected from the Left Vent. with each heart beat). Over time and depending upon the severity, MR can result in pulmonary edema and systemic volume overload. In chronic MR, Left Vent. Hypertrophy results. Mitral prolapse and rheumatic fever are the most common cause of MR. Capture even if patient is not scheduled for valve repair and/or replacement when available. Descriptive terms: None Trace/Trivial Mild Moderate Severe Enter the highest level recorded in the chart, i.e., worst performance level. “Moderately severe” should be coded as “severe”.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes

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July 2013	Which value for mitral insufficiency should be used, the preoperative echo or the intraoperative echo values OR should you code the highest level of insufficiency?		Regardless of the testing, code the most severe level of insufficiency that influenced the surgical decision. That value may come from either the preoperative or intraoperative testing.	
October 2011	Hemodynamic/Cath/ECHO section, if I click YES for Mitral Valve Disease (2160) I have choices for etiology (2170). I was told the patient's etiology was probably "ischemic", so I chose that. This opens ischemic type (2210) and options are acute-30 days of MI vs chronic – greater than 30 days MI. The patient NEVER had an infarct but has mild insufficiency. Should I choose "OTHER" for cases like these who do not seem to fit any option for etiology other than ischemic but have NOT had an MI? Procedure was CAB only, no valve interventions.		If the etiology is not documented in the record, choose other.	
October 2011	They didn't do a pre-op TEE but intra-op after induction the TEE revealed Mod Mitral regurg, we did not repair the valve, do I code the moderate Mitral Insufficiency since that is the only test I have? If Yes, what is the etiology for mitral valve disease?		Yes, you can code the insufficiency as that is the only data available. Etiology is left blank if unknown. It is important to capture valvular insufficiency for risk analysis.	
2280	VDTr	Indicate whether Tricuspid Valve Disease is present.	Tricuspid valve disease refers to abnormal function of the tricuspid valve. Two types of tricuspid disease include: -Tricuspid regurgitation - the valve is leaky or doesn't close tight enough, causing blood to leak backwards across the valve -Tricuspid stenosis - the valve leaflets are stiff and do not open widely enough, causing a restriction in the forward flow of blood. If valve stenosis or regurgitation is present, code yes even if there is no procedure being done on the valve. You want to be able to capture the risk associated with stenosis or insufficiency. If etiology is unknown, leave the following field blank.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2290	VDTrEt	Etiology	Functional -annular dilatation with or without leaflet tethering Endocarditis Congenital Tumor Trauma Other	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes
October 2011	The patient had a prior TV repair. The tricuspid valve ring subsequently dehisced with annular dilatation and para-valvular leak. Is etiology coded as Other or Functional?		Code as other and code previous tricuspid valve repair and failed repair.	

2300	VDStenT	Does the patient have any stenosis of the tricuspid valve?	The tricuspid valve is the largest of the four valves. Stenosis, over time, may create an enlarged right atria, reducing the amount of blood flow into the right ventricle; thereby, reducing cardiac output. Prolonged or chronic tricuspid stenosis may cause systemic vascular congestion, manifested primarily in the liver. Capture even if patient is not scheduled for valve repair or replacement.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2320	VDInsufT	Indicate if there is evidence of tricuspid regurgitation. Enter level of valve function associated with highest risk (i.e. worst performance).	Tricuspid regurgitation/insufficiency creates a backwards flow of blood across the tricuspid valve and causes enlargement of the right atrium and possibly atrial fibrillation. Capture even if patient is not scheduled for valve repair and/or replacement when available. Descriptive terms: None Trace/Trivial Mild Moderate Severe Enter the highest level recorded in the chart, i.e., worst performance. “Moderately severe” should be coded as “severe”.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2321	VDPulm	Indicate whether Pulmonic Valve Disease is present.	The pulmonary valve is a valve between the heart and the artery that leads to the lungs. If valve regurgitation or insufficiency is present, blood is able to flow from the artery and back into the heart. Pulmonary stenosis reduces blood flow to the lungs and makes the right ventricle work harder. The condition can cause the right sided heart failure. Pulmonary valve disease mostly occurs as a congenital abnormality but it can also be caused by conditions such as pulmonary hypertension, infective endocarditis or Marfan syndrome. If valve stenosis or regurgitation is present, code yes even if there is no procedure being done on the valve. You want to be able to capture the risk associated with stenosis or insufficiency. If etiology is unknown, leave the following field blank.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist
2330	VDStenP	Indicate whether Pulmonic Stenosis is present.	Pulmonary stenosis (PS) is often due to congenital malformation of the valve. As it restricts blood flow from the right ventricle into the pulmonary artery, patients experience extreme fatigue and heart palpitations. Severe PS may create a bluish tint to the skin and is life threatening. Capture even if patient is not scheduled for valve repair or replacement.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-operative checklist

2340	VDInsufP	Indicate if there is evidence of pulmonic valve regurgitation. Enter level of valve function associated with highest risk (i.e. worst performance).	Most common cause is from chronic pulmonary hypertension (noted by high PA pressures > 30mm Hg). Incompetent pulmonary leaflets allow blood to flow back into the Right Vent. Capture even if patient is not scheduled for valve repair and/or replacement when available. Descriptive terms: None Trace/Trivial Mild Moderate Severe Enter the highest level recorded in the chart, i.e., worst performance. “Moderately severe” should be coded as “severe”.	Anesthesia record Cardiac cath report Consultations Echocardiogram History & Physical Physician progress notes Pre-op checklist

I. OPERATIVE **This section is intended to capture intraoperative data.**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
2350	Surgeon	Indicate the Surgeon's name. This field must have controlled data entry where a user selects the surgeon name from a user list. This will remove variation in spelling, abbreviations and punctuation within the field. Note: Surgeon name is encrypted in the analysis database. Punctuation, abbreviations and spacing differences cannot be corrected at the warehouse.	To correctly and consistently identify the Surgeon. A drop down list is generated to avoid errors. This is the surgeon who bills for the procedure. Example: Two surgeons participate on a procedure; one performs the CAB and the other surgeon performs the MAZE: The surgeon for the database (surgeon of record) should be the surgeon who accepts responsibility for the patient's care.	Operative notes Operative record
2360	SurgNPI	Capture the individual-level National Provider Identifier of the surgeon performing the procedure	The NPI is a unique identification number for health care providers. Health care providers will use the NPIs in the administrative and financial transactions adopted under HIPAA. The NPI is a 10-position, intelligence-free numeric identifier (10-digit number) Meaning that the numbers do not carry other information about healthcare providers, such as the state in which they live or their medical specialty. NPI look up link: https://nppes.cms.hhs.gov/NPPES/NPIRegistryHome.do	Hospital billing department UB-04 UB-92 NPI website
2370	TIN	Capture the group-level Taxpayer Identification Number for the taxpayer holder of record for the Surgeon's National Provider Identifier that performed the procedure	If the physician is part of a medical group practice, use the name and taxpayer identification number of the medical group.	Hospital billing department UB-04 UB-92

2380	Incidence	Indicate if this is the patient's: -first cardiovascular surgery -first re-op cardiovascular surgery -second re-op cardiovascular surgery -third re-op cardiovascular surgery -fourth or more re-op cardiovascular surgery	The intent of this field is to capture the incidence of the procedure that the patient is about to go through during the current hospitalization, as compared to those procedures prior to this hospitalization. First operative means the patient has never had any procedure on the heart and/or great vessels. Note: previous intervention increases risk for morbidity and mortality and severity of disease process.	Anesthesia pre-op notes Cardiac cath report Consultation History & Physical Operative report
Aug 2012	A patient had descending aortic stent (TEVAR) placed in the past and discharged home. Now he is returning to have an aortic arch repair as an open procedure. Should the arch procedure be counted as his first incidence of CV surgery or as his first re-op CV procedure?		The arch repair will be the first CV surgery and the TEVAR is coded as prior CV intervention, other.	
Aug 2012	What is the incidence for a patient who had a previous other cardiac procedure of pericardial window?		This is a first CV surgery, window does not change incidence.	
March 2014	The Patient had a previous CAB. A transfemoral TAVR was attempted but there were access issues. The patient now returns 2 months later for transapical TAVR. Would this be considered a first or second reoperation?		This is a first reoperation.	

2390	Status	Indicate the clinical status of the patient prior to entering the operating room.	Status described as elective, urgent, emergent, or emergent salvage **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. **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- including critical stenosis, aneurysm, IABP, unstable angina (USA) with intravenous (IV) nitroglycerin (NTG) or rest angina. **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. The patient's clinical status includes any of the following: a. Ischemic dysfunction (any of the following): (1) Ongoing ischemia including rest angina despite maximal medical therapy (medical and/or IABP); (2) Acute Evolving Myocardial Infarction within 24 hours before surgery; or (3) pulmonary edema requiring intubation. b. Mechanical dysfunction (either of the following): (1) shock with circulatory support; or (2) shock without circulatory support. **Emergent Salvage:** The patient is undergoing CPR or ongoing ECMO en route to the O.R. or prior to anesthesia induction. To capture the acuity of the patient in a dying state.	Cardiac cath report Consultations CPR record Critical care notes History & Physical Operative notes CT scan ECG/EKG Medication administration record Monitor strips MRI Operative notes 2D or TEE echo Physician progress note
October 2011	Our surgeon brought a patient into the hospital the day before surgery for a Swan Ganz catheter and Nipride. We only code patients brought in the same day as elective; is this patient elective or urgent?		This should be coded as an elective operation.	

2400	UrgntRsn	Indicate which one of the following applies as the reason why the patient had Urgent Status: -Acute myocardial infarction (AMI) -Intra-Aortic Balloon Pump (IABP) -Worsening, sudden chest pain -Congestive Heart Failure (CHF) or valvular or ischemic etiology -Coronary Anatomy -Unstable angina (USA) with intravenous nitroglycerin (NTG) -Rest angina -Valve Dysfunction-Acute Native or Prosthetic -Aortic Dissection -Angiographic Accident -Cardiac Trauma -Infected Device -Syncope -PCI/CABG Hybrid -PCI Failure without clinical deterioration	Any of the conditions that require that the patient remain in the hospital until surgery can take place, but the patient is able to wait for surgery until the next available OR schedule time. Delay in the operation may be necessitated by attempts to improve the patient's condition, availability of a spouse or parent for informed consent, availability of blood products, or the availability of results of essential laboratory procedures or tests. There is a hierarchy of importance when coding this variable. The hierarchy of importance relates to the primary or underlying cause of what follows in condition or treatment. Example: If a patient has both an AMI and an IABP, the AMI would be the appropriate code since it carries weight by being in the risk models. If a patient has severe aortic and mitral valve stenosis, but also has symptoms such as dyspnea on exertion (DOE), paroxysmal nocturnal dyspnea (PND), congestion on x-ray or pedal edema that has been treated as CHF, code “CHF” as the most appropriate choice. Valve dysfunction is defined as a structural failure with that valve. For prosthetic valves – fractured leaflet, thrombus formation, pannus development which impedes flow through the valve orifice, or valvular dehiscence (coming loose or disconnected at the suture line). Native valve dysfunction includes papillary rupture or torn leaflet. Rupture or dissection during cardiac cath; Perforation, tamponade following cardiac cath-does not include stent closure.	Cardiac cath record Consultations Critical care notes CT scan ECG/EKG Medication administration record MRI Operative notes 2D or TEE echo Physician progress note

2410	EmergRsn	An emergency operation is one in which there should be no delay in providing operative intervention. Indicate which one of the following applies as the reason why the patient had Emergent Status, Select one: -Shock with circulatory support -Shock no circulatory support -Pulmonary edema requiring intubation -Acute evolving MI within 24 hours before surgery -Ongoing ischemia, including rest angina, despite maximal medical therapy (medical and/or IABP). -Valve dysfunction-Acute Native or Prosthetic -Aortic Dissection -Angiographic Accident -Cardiac Trauma -Infected Device -Syncope -PCI/CABG Hybrid -Anatomy	Patients requiring emergency operations will have ongoing, refractory (difficult, complicated, and/or unmanageable) cardiac compromise, with or without hemodynamic instability, and not responsive to any form of therapy except cardiac surgery. Hemodynamic picture of shock that is being chemically or mechanically supported. (IV inotrope or IABP to maintain cardiac output [CO]. Requires intubation and ventilation for pulmonary edema. The patient is extending an MI and requires immediate surgery. The patient continues to show signs of ongoing ischemia, i.e. EKG changes. Acute native valve dysfunction i.e. as acute papillary muscle rupture or torn leaflet. Prosthetic valve dysfunction is defined as a structural failure with that valve-fractured or torn leaflet, thrombus formation, pannus development which impedes flow through the valve orifice, or valvular dehiscence (coming loose or disconnected at the suture line). Acute dissection secondary to trauma or dissection secondary to progression of disease. Rupture or dissection during cardiac cath; perforation, tamponade following cardiac cath. If a patient presents with a scenario that does not fit into a definite category; it is reasonable to code the reason that most closely matches the patient's presentation.	Cardiac cath record Consultations Critical care notes ECG/EKG Medication administration record Operative record Physician progress note

July 2013	A PCI is attempted and the cardiologist is unable to cross the lesion with a wire but causes coronary artery dissection, the patient becomes hemodynamically unstable and is taken to the OR. How do you code emergent reason?		Code as angiographic accident.	
The fields below deal with canceled or aborted cases. Although infrequent, the goal is to capture cases that were canceled and rescheduled during the same admission, cases that were canceled and rescheduled for a subsequent admission and cases that were canceled and not rescheduled. Since only 1 DCF can be completed per admission, it is important to capture the definitive procedure, if one was done.				
2415	PCancCase	Indicate whether this case was previously attempted during this admission and canceled or aborted after patient entered the operating room.	Example# 1: A patient comes to the O.R. for a CABG; during line insertion the carotid artery is inadvertently accessed. The case is postponed a few days to allow the puncture to heal prior to heparinization. No DCF is completed for that trip to the O.R. but the event is captured here (2415-2423) when the patient returns to have the scheduled surgery a few days later during the same hospital admission. Answer: Yes Example #2: A patient comes to the O.R for a valve replacement, during the time out, it is discovered that the device needed is not available. The patient is discharged and readmitted 2 days later. This patient will have 2 DCFs, the first will capture the first admission canceled case data in fields 2424-2431, and the second DCF (the second admission) will capture the valve replacement. Answer: No	Operative record Physician progress note
2416	PCancCaseDt	Enter date previously attempted case was canceled.	Date must be during this hospital admission.	Operative record Physician progress note

2417	PCancCaseTmg	Indicate at what point previously attempted case was canceled or aborted.	Prior to Induction of Anesthesia After Induction, Prior to Incision After Incision Made	Operative record Physician progress note
2418	PCancCaseRsn	Indicate the reason why the previously attempted case was canceled or aborted.	-Anesthesiology event: Includes airway, line insertion and medication issues encountered during induction -Cardiac arrest: Patient deterioration unrelated to induction -Equipment/supply issue: Device malfunction or supply issue including devices and blood products needed for surgery but not available -Unanticipated tumor -Other	Operative record Physician progress note
2419	PCancCaseCAB	Indicate whether the plan for the previously attempted procedure included coronary artery bypass grafting.		Operative record Physician progress note
2420	PCancCaseVal	Indicate whether the plan for the previously attempted procedure included a valve repair or replacement.		Operative record Physician progress note
2421	PCancCaseMech	Indicate whether the plan for the previously attempted procedure included implanting or explanting a mechanical assist device.		Operative record Physician progress note
2422	PCancCaseOC	Indicate whether the plan for the previously attempted procedure included any other cardiac procedure.		Operative record Physician progress note
2423	PCancCaseONC	Indicate whether the plan for the previously attempted procedure included any other non-cardiac procedure.		Operative record Physician progress note
2424	CCancCase	Indicate whether the current case was canceled or aborted after patient entered the operating room.	Use this field when an unanticipated event or condition causes the current case to be cancelled and not rescheduled during the same admission. Example#1: A patient comes to the O.R for a valve replacement, during the time out, it is discovered that the device needed is not available. The patient is discharged and readmitted 2 days later. This patient will have 2 DCFs, the first will capture the first admission canceled case data in fields 2424-2431, and the second DCF (the second admission) will capture the valve replacement. Answer: Yes Example #2: A patient comes to the O.R. for an AVR, prior to induction the patient arrests and resuscitation is unsuccessful. Complete all preop and	Operative record Physician progress note

			relevant post op fields and the mortality fields. Answer: Yes	
October 2013	Patient was scheduled for TAVR and enters the suite. The TAVR is aborted and only valvuloplasty is done. Is this a cancelled case? Should it be included?		***Yes, include this as a cancelled case.***	
October 2011	Our perfusionists start the case. Do you want the preop form completed in addition to the mortality data (if applicable), if a pt. is cancelled and does not return to the OR?		If a patient enters the OR and the case is cancelled and the patient does not return to the OR during that admission, complete all preop and postop information.	
October 2011	In the OR the conduits were found to be unusable. The case was cancelled and the patient was transferred to another facility. Is this cancelled case coded as "other cardiac" or "Other Non Cardiac"		Code as Other Non cardiac.	
October 2011	The case was cancelled in the preop holding area due to high potassium level and rescheduled for the next day.		Do not code this as a cancelled case since the patient never entered the operating room.	
October 2011	On a redo CABG, the surgeon spent 3 hours freeing adhesions and decided to bring the patient back the following day for CABG x #. How is the first procedure coded?		You can only create one record per admission, so code the redo CABG and fill in fields 2415-2419 to address the cancelled case.	
2425	CCancCaseTmg	Indicate at what point the current case was canceled or aborted.	-Prior to Induction of Anesthesia -After Induction, Prior to Incision -After Incision Made	Operative record Physician progress note
2426	CCancCaseRsn	Indicate the reason why the current case was canceled or aborted.	-Anesthesiology event: Includes airway, line insertion and medication issues encountered during induction -Cardiac arrest: Patient deterioration unrelated to induction -Equipment/supply issue: Device malfunction or supply issue including devices and blood products needed for surgery but not available -Unanticipated tumor -Other	Operative record Physician progress note
2427	CCancCaseCAB	Indicate whether the plan for the current procedure included coronary artery bypass grafting.	The intent is to capture the scheduled procedure.	Operative record Physician progress note
2428	CCancCaseVal	Indicate whether the plan for the current procedure included a valve repair or replacement.	The intent is to capture the scheduled procedure.	Operative record Physician progress note

2429	CCancCaseMech	Indicate whether the plan for the current procedure included implanting or explanting a mechanical assist device.	The intent is to capture the scheduled procedure.	Operative record Physician progress note
2430	CCancCaseOC	Indicate whether the plan for the current procedure included any other cardiac procedure.	The intent is to capture the scheduled procedure.	Operative record Physician progress note
2431	CCancCaseONC	Indicate whether the plan for the current procedure included any other non-cardiac procedure.	The intent is to capture the scheduled procedure.	Operative record Physician progress note
2435	OPApp	Indicate the operative approach.	-Full conventional sternotomy -Partial sternotomy -RIGHT OR LEFT parasternal incision -Left Thoracotomy -Right Thoracotomy -Transverse sternotomy (includes clamshell) -Minimally invasive – ~~this should only be selected~~ for operations done via thoracoscopy or mediastinoscopy **and for Transcatheter valve approaches.** Do not select this if a partial sternotomy or mini thoracotomy is used. If more than one approach is used, choose the approach that was used for the majority of the procedure.	Operative record Physician progress note
May 2012	Should Transcatheter valves be coded in the STS Database if: -the surgeon did not deploy the valve -we belong to the TVT registry		Transcatheter valve cases, must have a surgeon involved and **unless part of an investigational study**, should be entered into the STS Database, no matter the degree of surgeon involvement. Cases must be entered into the TVT registry and the STS Database until the registries are linked. These will not be included in isolated AVR analysis and will not be included in reports (for now).	
May 2012	A patient was brought to the procedure room for TVT and arrested during the femoral cut down. How is this captured in the STS Database?		Capture as other, noncardiac, vascular procedure.	
March 2012	How do I code approach for a Transcatheter Valve?		This has been added to the minimally invasive definition.	
October 2011	How do I indicate Bilateral mini thoracotomy for MAZE procedures?		The next upgrade will need to be multiselect, “choose all that apply”, for now, choose the larger incision or choose Left Thoracotomy.	
July 2011	Is a mini sternotomy captured as a partial sternotomy?		Yes	
2436	Robotic	Indicate whether the cardiac surgery was assisted by robotic technology.	To capture the use of robotics during a cardiac operation. The entire procedure does not have to be completed with a robot to qualify as robotically assisted.	Operative notes Operative record

2437	OpCAB	Indicate whether coronary artery bypass grafting was done.	To capture patients who undergo coronary artery bypass grafting which is construction of one or more bypass grafts to the coronary arteries using conduits such as saphenous veins, internal mammary arteries, or radial arteries. Example #1: A surgeon places epicardial leads for future arrhythmia devices (device itself not placed at time of initial surgery) in addition to CAB: Code the case as an Isolated CAB. Example #2: A patient has a planned CAB, but during the surgery it is determined a VAD is required: code CABG and unplanned VAD. Example #3: A patient has a CAB procedure along with an Afib surgical procedure, code both.	Operative notes Operative record
August 2013	How do you code the vein graft that is transected for the AVR and repaired with an end-to-end anastomosis?		This is not coded, it is considered to be part of the procedure.	
Aug 2012	We have a patient that had aortic aneurysm repair. A Cabrol procedure was done to perfuse around the aortic root using two venous conduits. Do we answer yes to CAB and fill out all the information in the CAB procedure section including the CAB worksheet?		Do not code the Cabrol procedure as a CAB	
2440	OpValve	Indicate whether a surgical procedure was done on the Aortic, Mitral, Tricuspid or Pulmonic valves.	The intent is to capture valve replacements and/or repairs.	Operative notes Operative record
October 2011	How do you code a transcatheter aortic valve? Do you include the balloon valvuloplasty?		Code as an AVR and enter appropriate data in field 4295. Balloon valvuloplasty is considered part of the transcatheter deployment, do not code as a separate procedure when done in the same setting.	
2450	ValExp	Indicate whether a prosthetic valve or annuloplasty device was explanted during this procedure.	The intent is to capture as much information as possible about explanted devices. This will assist with post market device surveillance and provide information on device longevity. Having this information will help surgeons and patients make informed decisions on device selection.	Operative notes Operative record
August 2013	Should we code excision of a valve when the housing of the valve and sewing cuff still are left in the patient (leaving the entire old sewing cuff in place) Dictation: The aortic valve was then replaced with a 21 mm Trifecta valve. The valve easily set on top of the existing sewing cuff. Should this be coded as an explant when they left in the sewing		Even though the sewing cuff is retained, the explant should be coded.	

	cuff? Also, we had a recent case where the bioprosthetic valve degenerated due to calcium and they only excised the leaflets and left the sewing ring behind and did a valve in valve procedure. I did not code explant of the valve in this case.		Even though the sewing cuff is retained, the explant should be coded.	
July 2011	If a valve or annuloplasty device is implanted and explanted and replaced by a different device in the same operation, how do you code this?		Only code the device the patient left the OR with. Do not code the implant/explant that did not work.	
2451	ValExpPos	Indicate the location of the first explanted prosthetic valve or annuloplasty device.	-Aortic -Mitral -Tricuspid -Pulmonic	Operative notes Operative record
2460	ValExpTyp	Indicate the first type of valve device explanted or enter unknown.	-Unknown -Mechanical Valve -Bioprosthetic Valve -Annuloplasty Device -Mitral Clip -Transcatheter Device	Operative notes Operative record
2461	ValExpMan	Indicate the name of the manufacturer of the first prosthesis explanted.	Choose from the list of manufacturers; choose “unknown” if the manufacturer is not known or “other” if the manufacturer is not listed.	Operative notes Operative record
2462	ValExpDev	Indicate the name of the first prosthesis explanted.	Choose from the list of devices provided, if device not listed choose “other”, The explant list contains many devices that are no longer implanted but may still be in patients. This list is different than the implant device list.	Operative notes Operative record
2463	ValExp2	Indicate whether a second prosthetic valve or annuloplasty was explanted during this procedure.	In the event that more than one device is explanted, you can capture both.	Operative notes Operative record
2464	ValExpPos2	Indicate the location of the second explanted prosthetic valve or annuloplasty device.	-Aortic -Mitral -Tricuspid -Pulmonic	Operative notes Operative record
2465	ValExpTyp2	Indicate the second type of valve device explanted or enter unknown.	-Unknown -Mechanical Valve -Bioprosthetic Valve -Annuloplasty Device -Mitral Clip -Transcatheter Device	Operative notes Operative record

2466	ValExpMan2	Indicate the name of the manufacturer of the second prosthesis explanted.	Choose from the list of manufacturers; choose "unknown" if the manufacturer is not known or "other" if the manufacturer is not listed.	Operative notes Operative record
2467	ValExpDev2	Indicate the name of the second prosthesis explanted.	Choose from the list of devices provided, if device not listed choose "other", The explant list contains many devices that are no longer implanted but may still be in patients. This list is different than the implant device list.	Operative notes Operative record
2480	VADProc	Indicate whether a ventricular assist device (VAD) was implanted and/or removed during this procedure.	No Implanted Explanted Implanted & Explanted	Operative notes Operative record
July 2011	Removed old field numbers and example, field includes implant and/or explant.			
2490	OpOCard	Indicate whether another cardiac procedure was done (other than CABG and/or Valve procedures).	To capture procedures other than CABG which may include: LVA (Left Ventricular Aneurysm), VSD (Ventricular Septal Defect), ASD (Atrial Septal Defect), SVR (Surgical Ventricular Restoration), Congenital Defect Repair, TMR (Transmyocardial Revascularization), Cardiac Trauma, Cardiac Transplant, Arrhythmia Correction Surgery, Permanent Pacemaker, ICD (Implantable Cardiac Defibrillators), Atrial Fibrillation Correction Surgery, Aortic Aneurysm, Aortic Dissection, Endovascular procedures, Tumor Resection, Pulmonary Thromboembolectomy, and any other cardiac procedure not captured above. Do not capture placement of epicardial leads for an ICD or CRT without device implantation. Do not capture pericardial windows.	Operative notes Operative record
Aug 2012	The only procedure done is an epicardial lead placement with new permanent pacemaker generator. The case is done by a CV surgeon in the OR. Does this case need to be included in STS submission?		No, do not include this case.	
Aug 2012	Procedure: Sternotomy, pericardiectomy with EP testing, left atrial appendage closure off bypass. Procedure took 2 hours but sounds like a pericardial window. Is this Afib correction surgery or other cardiac or not entered?		Do not include this case in the Database.	
Aug 2012	During isolated CAB the distal vein anastomosis kept bleeding so they took the graft off, moved it further down but again removed it and repaired the left ventricle with 'several sutures and large pledgets'. Is this 'other cardiac' or 'unplanned procedure: other'?		Do not code 'other', this is an isolated CAB	

Aug 2012	I have a patient that had to have an aortic atherectomy in order to complete CABG and valve. Do I code this as other cardiac procedure? Code as 'other' under this, or just not code? They needed to remove plaque so they could seat the valve and insert the grafts into the aorta. Dr.'s note stated the aortic root was "plate like" (not surprisingly the patient was 90 years old).	No, this is part of the procedure, this case is an AVR + CAB
Aug 2012	The IMA was taken down… On completion of this, the left chest was entered and the lung was densely adhered to the pericardium and chest wall. The lung was dissected free. There was a pleural peel on both the upper and lower lobes. These were removed to allow full expansion of the left lung which was able to be done after the peel was removed performing the decortication. Is this other Cardiac or Other Noncardiac?	This remains an isolated CABG and is considered part of the mammary takedown.
Aug 2012	The procedure in question involves a median sternotomy and placement of a hemashield graft, aorto-distal innominate bypass graft in conjunction with an endarectomy of the right common carotid. Sternotomy was performed and partial aortic cross clamp was used but the patient did not go on CPB. Should this case be included in the STS database as Other Cardiac: 'Other'?	Do not include this procedure.
Aug 2012	Procedure: Resection of a mediastinal teratoma. It involved the pericardium which was removed during surgery. The pericardium was replaced with bovine pericardium. DID NOT require CPB. Is this 'Other Cardiac', 'Other Non-Cardiac', Other Cardiac: tumor' or is it considered similar to a pericardial window and not to be included?	Do not include this in the Adult cardiac Database, if the surgeon participates in the General Thoracic Database, enter it there.
Aug 2012	Our surgeon performed a left thoracotomy and epicardial lead placement for a preexisting ICD. Does this get entered into the database? If so, how is it coded, as an Other Cardiac: "Other"	Do not include this in the Database.

	procedure?			
July 2011	Typically lung transplants are not captured in our Adult Cardiac Database, but if the surgeon does a vena cava reconstruction or an Alfieri stitch of the tricuspid valve should it be captured?		If the surgeon participates in the Adult Cardiac Surgery Database and the patient goes on CPB, capture the case in the Adult Cardiac Surgery database.	
2500	OpONCard	Indicate whether a non-cardiac procedure was done.	To capture procedures other than CABG. These may include: Carotid Endarterectomy, Vascular, or Thoracic procedures.	Operative notes Operative record
Aug 2012	Pt. is status post CABG and had a median sternotomy incisional hernia. The findings were a 6.8 cm midline defect in the inferior portion of the previous sternotomy site. A JP drain was placed and it was repaired with mesh. It was on my list of cases to abstract because it was done by a cardiothoracic surgeon, not sure if this qualifies for STS abstraction?		Do not enter this case.	
Aug 2012	We had a patient with a gunshot wound to the chest. The cardiothoracic surgeon took him to surgery and did: 1) Exploratory left thoracotomy, 2) Exploratory median sternotomy, 3) Repair of lacerations of the upper lobe and left lower lobe with wedge resection, 4) Repair of the left pulmonary vein and lung injuries on cardiopulmonary bypass. Do we count this as a patient in the data base as "other non-cardiac procedure" for the adult cardiac surgery database since he was done on cardiopulmonary bypass? No bypasses done, no cardiac trauma.		Yes, include this case as Other Non-Cardiac, thoracic	
2501	UnplProc	Indicate if an unplanned procedure was done during this operation.	Unanticipated or unplanned procedure(s) required due to events or discoveries during planned procedure. This does not include any procedures listed as "possible" on the surgical consent or O.R. schedule. Coding “Yes, unsuspected patient disease or anatomy” will remove the patient from analysis in the “isolated procedure” category, however coding “Yes, surgical complication” will keep the patient in the isolated procedure category. (see below) Example #1: A patient is scheduled for a CABG and has an aortic dissection due to cannulation. Code CABG, code 5471- Aortic Procedure, code 2501 as “yes, surgical complication” and code 2505 to indicate the aortic procedure	Operative notes Operative record

			was unplanned. This patient will be analyzed as an isolated CABG since the additional procedure was required because of a surgical complication. Example #2: A patient is scheduled for a CABG and is found to have significant mitral regurgitation on TEE at the start of the case; the surgeon does the CABG and repairs the valve. Code as CABG, code 2501 "Yes, unsuspected patient disease or anatomy" and code appropriate fields for MV repair. This is will not be analyzed as an isolated CABG since the patient's condition led to additional surgery.	
December 2013	Is a pleural effusion that is drained during an open heart procedure considered an unplanned procedure?		***No, the drainage of a pleural effusion during a cardiac surgical procedure is considered part of the procedure and is not coded as an unplanned procedure or an other non cardiac thoracic procedure.***	
October 2013	If a TAVR case has to go on pump due to complications, should this be collected as unplanned procedure.		***No, this is still a valve, just on pump***.	
August 2013	The patient required cycstoscopy prior to the start of the CAB procedure. Is this coded as unplanned procedure?		This is not an unplanned procedure.	
Aug 2012	During OR for CABG, the main pulmonary artery was injured and required suturing. Do I count the PA repair as an unplanned surgery; surgical complication; other procedure?		Code unplanned procedure due to surgical complication and the case will be analyzed as an isolated CAB	
Aug 2012	I have an isolated CABG that had an unplanned balloon dilation of trachea due to stenosis that they did not know about until intubation attempt in the OR. Should I code this as unplanned Other Non-Cardiac Other for unsuspected disease anatomy? Will take it out of isolated category. She did go on to have some post-op complications from this. Required return to OR for repeat dilation, had increasing SOB.		No, this was part of airway management. The case remains an isolated CAB.	
Aug 2012	For a redo CAB the surgeon indicates in his operative note: Lysis of adhesions from previous open heart operation and added time 50%. Can I code Yes to 2501, unplanned procedure, and is so, unsuspected patient disease or anatomy?		No, this is part of a redo CAB. Do not code unplanned procedure or 'other'.	
October 2011	How will unplanned procedures be analyzed related to isolated procedure categories?		Unplanned procedures due to unsuspected anatomy or disease will take the patient out of the isolated procedure category, surgical complications will not. See examples above.	
2502	UnplCABG	Indicate whether unplanned procedure was a CABG.	Unplanned CABG may be required due to anatomy or unanticipated events during the planned procedure.	Operative notes Operative record

2503	UnplAV	Indicate whether unplanned procedure was an aortic valve repair or replacement.	Unplanned AV repair or replacement was done due to unanticipated discoveries or events in surgery. This does not include an AV Replacement after attempted AV repair.	Operative notes Operative record
2504	UnplMV	Indicate whether unplanned procedure was a mitral valve repair or replacement.	Unplanned MV repair or replacement was done due to unanticipated discoveries or events in surgery. This does not include a MV Replacement after attempted MV repair.	Operative notes Operative record
2505	UnplAo	Indicate whether unplanned procedure was an aorta procedure.	Unplanned aortic procedures may be required due to unanticipated discoveries or events during the planned procedure. This does not include unplanned aortic valve procedures. Example: dissection during cannulation	Operative notes Operative record
2506	UnplVAD	Indicate whether unplanned procedure was a VAD insertion.	Capture unplanned VAD insertion resulting from events during surgery. Do not include VADs that were listed as "possible" on consent or O.R. schedule.	Operative notes Operative record
2507	UnplOth	Indicate if other unplanned procedure was performed.	Any unplanned procedure other than CABG, AV, MV, Aortic or VAD.	Operative notes Operative record
2510-2600	CPT1Code1-CPT1Code10	Enter up to 10 CPT codes for the procedures performed during this surgery.	This will not be counted as missing data if left blank. These fields may be tied to CMS pay for performance measures in the future. Enter appropriate CPT codes; the list is no longer limited. 5 character code, searchable database link below: https://catalog.ama-assn.org/Catalog/cpt/cpt_search.jsp?checkXwho=done	Operative record Physician progress notes Surgeon
2610	OREntryDT	Capture the date and time, to the nearest minute (using 24-hour clock), that the patient entered the operating room.		Anesthesia record Operative notes Operative record
2620	ORExitDT	Capture the date and time, to the nearest minute (using 24-hour clock), that the patient exits the operating room.		Anesthesia record Operative notes Operative record

2670	IntubateDT	Capture the date and time (using 24 hour clock) ventilatory support started.	The following guidelines apply: 1. Capture the intubation closest to the surgical start time. If the patient was intubated upon admission and remained intubated until the surgical start time, capture this intubation's date and time. 2. If the patient was admitted intubated (intubated at another institution) and remained continually intubated until the surgical start time, capture the patient's admission date and time. 3. If the patient was admitted with a tracheostomy in place without ventilatory support, capture the date and time closest to the surgical start time that ventilatory support was initiated. 4. If the patient was admitted with a tracheostomy in place receiving chronic ventilatory support, capture the admission date and time. 5. If the intubation date and time is otherwise unknown, enter the date and time the patient entered the operating room. 6. Do not alter the previously established date and time that ventilatory support was initiated for a scenario including, but not limited to, interruptions in ventilatory support due to accidental extubation/de-cannulation, elective tube change etc.	Anesthesia record Critical care notes Operative record Respiratory therapy record
2680	ExtubateDT	Capture the date and time (using 24 hour clock) ventilatory support initially ceased after surgery.	The following guidelines apply: 1. Capture the extubation closest to the surgical stop time. 2. If the patient has a tracheostomy and is separated from the mechanical ventilator postoperatively within the hospital admission, capture the date and time of separation from the mechanical ventilator closest to the surgical stop time. 3. If the patient expires while intubated or cannulated and on the ventilator, capture the date and time of expiration. 4. If patient is discharged on chronic ventilatory support, capture the date and time of discharge.	Anesthesia record Critical care notes Operative record Respiratory therapy notes
2690	SIStartDT	Capture the date and time (using 24 hour clock), to the nearest minute that the skin incision, or its equivalent, was made. ~~For example, during bronchoscopy, one would utilize the bronchoscope insertion time.~~	The intent of this field is to capture the time the first skin incision is made regardless of if the first incision is a harvest site incision or a sternal/thoracotomy incision.	Anesthesia record Operative record
July 2011	Clarification: Bronchoscopy, as a standalone procedure is not included in the Adult Cardiac Surgery Database. Use incision start times.			

2700	SIStopDT	Capture the date and time (using 24 hour clock) to the nearest minute, that the skin incision was closed, or its equivalent (i.e. removal of scope).	If the patient leaves the operating room with an open incision, collect the time that the dressings were applied to the incision.	Anesthesia record Operative record
2710	AbxSelect	Indicate if there was documentation of an order for a first generation or second generation cephalosporin prophylactic antibiotic OR documentation that it was given preoperatively.	A goal of prophylaxis is to use an agent that is safe, cost effective, and has a spectrum of action that covers most of the probable contaminants for the operation. First or second generation cephalosporins satisfy these criteria for most operations or therapeutic substitution of Vancomycin or alternative selection due to documented patient issues including but not limited to allergy. *NQF Measure Description*- Percent of patients aged 18 years and older undergoing cardiac surgery who received preoperative prophylactic antibiotics recommended for the operation *Numerator*- Number of patients undergoing cardiac surgery who received a first generation or second generation cephalosporin prophylactic antibiotic (e.g., cefazolin, cefuroxime, cefamandole) preoperatively or in the event of a documented allergy, an alternate antibiotic choice (e.g., vancomycin, clindamycin) was ordered and administered preoperatively *Denominator*-Number of patients undergoing cardiac surgery *Exclusions* - Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope - Patients enrolled in clinical trials - Patients with documented infection prior to surgical procedure of interest - Patients who expired perioperatively - Patients who were receiving antibiotics more than 24 hours prior to surgery - Patients who were receiving antibiotics within 24 hours prior to arrival - Patients who did not receive any antibiotics before or during surgery, or within 24 hours after anesthesia end time (i.e., patient did not receive prophylactic antibiotics) - Patients who did not receive any antibiotics during this hospitalization	Anesthesia record Operative record Physician order sheet Medication administration sheet Pre-op checklist

Aug 2012	Pt with preop nonhealing wound ulcers was placed on antibiotics. MD ordered Vanco for 1 hr. pre-op and to be dc'd per protocol. ID changed to Cleocin and pt. was kept on Cleocin > 48 hrs. due to potential infection from leg ulcers. Should this be captured as exclusion for all areas of antibiotics or may I choose Yes for choice and timing (was given within 1 hr.) and choose exclusion for discontinued?		Code yes for all 3- the measures for choice, timing and discontinuation were all met in this case.	
October 2011	Is Cleocin an acceptable alternative selection for antibiotics?		Cleocin is not typically considered a therapeutic substitution, however if there are patient specific reasons for using Cleocin as a pre op abx documented in the record, it is acceptable.	
July 2011	The choices for the quality measures are yes, no and exclusion. When do you mark exclusion?		If there are medical reasons (such as ongoing infection using other antibiotics), patient reasons (patient refuses, is under age 18) or system reasons (medication unavailable). NQF measure specs are included for complete lists of exclusions.	
2720	AbxTiming	Indicate whether prophylactic antibiotics were administered within one hour of surgical incision or start of procedure if no incision (two hours if receiving Vancomycin or fluoroquinolone).	The surgical incision time is the time of the first incision, regardless of location. Yes- given No- not given, no documented reason Exclusion- Documented contraindication or rationale for not administering antibiotic in medical record *NQF Measure Description* Percent of patients aged 18 years and older undergoing cardiac surgery who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if receiving vancomycin or fluoroquinolone) *Numerator*-Number of patients undergoing cardiac surgery who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if vancomycin or fluoroquinolone) *Numerator Time Window*-Within one hour of surgical incision or start of procedure if no incision was required (two hours if vancomycin or fluoroquinolone) *Denominator*-Number of patients undergoing cardiac surgery *Exclusions*- Cases are removed from the denominator if the patient had a documented contraindication or rationale for not administering the antibiotic is provided in the medical record Other exclusions include:	Medication administration record Operative record Anesthesia record Physician order sheet Pre-op checklist

			- Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope - Patients enrolled in clinical trials - Patients with documented infection prior to surgical procedure of interest - Patients who were receiving antibiotics more than 24 hours prior to surgery - Patients who were receiving antibiotics within 24 hours prior to arrival	
Aug 2012	Is it considered an antibiotic timing complication if a 30 minute antibiotic infusion is hung 1 hour and 14 minutes prior to procedure start time? More than half the antibiotics will be running after the 1 hour pre-procedure mark.		The antibiotic start time must be within 1 hour of the incision. The measure is not met in this case.	
Aug 2012	I have 2 patients who began to receive antibiotics slightly more than 1 hr. before incision (7 min and 14 min for a 30 min infusion). The bulk of the Abx went in within one hour but it was started just before. Comment: to receive the large majority of ABx within 1 hr. certainly meets the spirit of the measure and I would respectfully request a different interpretation. If the majority of the ABx is given during 1 hr. preceding incision, it should not be a fall out.		The measure requires that the administration of antibiotics must be started within an hour of incision. These cases fail to meet the measure.	
2730	AbxDisc	Indicate whether the prophylactic antibiotics were ordered to be discontinued OR were discontinued within 48 hours after surgery end time.	The timeframe (within 48 hours) begins at the "surgical end time" - the time the patient leaves the operating room. *NQF Measure Description* Percent of patients aged 18 years and older undergoing cardiac surgery whose prophylactic antibiotics were discontinued within 48 hours after surgery end time *Numerator*-Number of patients undergoing cardiac surgery whose prophylactic antibiotics were discontinued within 48 hours after surgery end time *Numerator Time Window*-Within 48 hours after surgery end time *Denominator*-Number of patients undergoing cardiac surgery *Exclusions* - Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by	Medication administration record Nursing notes Operative record Physician order sheet

			Laparoscope - Patients enrolled in clinical trials - Patients with documented infection prior to surgical procedure of interest - Patients who expired perioperatively - Patients who were receiving antibiotics more than 24 hours prior to surgery - Patients who were receiving antibiotics within 24 hours prior to arrival - Patients who did not receive any antibiotics during this hospitalization - Patients with reasons to extend antibiotics	
August 2013	How do you code antibiotic discontinue time when the patient returns to the OR in the acute phase?		This should be coded as an exclusion. This will be clarified in the next version of the data specifications.	
October 2011	When does the clock start for the 48 hours?		Use OR exit time.	
October 2011	The patient is allergic to penicillin and is given vancomycin appropriately before and after surgery. Standing orders are followed to dc the vancomycin but the surgeon restarts it to treat endocarditis. Do I code yes for discontinued?		Yes, the prophylactic antibiotic was discontinued. If it was continued without stopping you would mark exclusion as noted in measure exclusions above.	
2740	CPBUtil	Indicate the level of CPB or coronary perfusion used during the procedure. **None** = no CPB or coronary perfusion used during the procedure. **Combination** = CPB used during part, but not all of the procedure **Full** = CPB or coronary perfusion was used for the entire procedure.	Off pump = no cardiopulmonary bypass Coronary perfusion methods are used as an alternative to complete heart and lung bypass. They are often referred to perfusion assisted devices where just the coronary artery that is being grafted is perfused (distal) to the anastomoses site (a method of supplying distal perfusion to isolated coronary arteries while new grafts are constructed). While not as invasive as cardiopulmonary bypass, it is still a method of supporting the myocardium during a period of relative ischemia. These devices allow for continued myocardial perfusion to the area of myocardium that is being revascularized; therefore, reducing any ischemic time to that region. They also do not expose the patient to the typical risks poised by the heart/lung system (i.e. microembolism, heparinization, fluid imbalances, cellular damage etc.). If the patient started as an off pump case (OPCAB) and then moved to a LHA (Left Heart Assist), this would be considered the same as CPB; code as a “Combination”. If LHA is used for an entire case code “Full”.	Operative note Operative record Perfusion record

2750	CPBCmb	Indicate whether the combination procedure from off-pump to on-pump was a planned or an unplanned conversion. **Planned** = the surgeon intended to operate using a combination of on pump and off pump techniques. **Unplanned** = the surgeon did not intend to operate using on and off pump techniques.	To capture if the operation was intended to be an off pump case and for some clinical reason required cardiopulmonary bypass to complete the operation.	Operative notes Operative record Perfusion Record Physician progress notes
2760	CPBCmbR	Indicate the reason that the procedure required the initiation of CPB and/or coronary perfusion: • Exposure/visualization • Bleeding • Inadequate size and/or diffuse disease of distal vessel • Hemodynamic instability (hypotension/arrhythmias) • Conduit quality and/or trauma • Other	To capture the reason that caused the procedure to require the initiation of cardiopulmonary bypass and/or coronary perfusion to complete the operation.	Operative notes Operative record Perfusion Record Physician progress notes
2770	PerfusTm	Indicate the cardiopulmonary bypass time (perfusion time) in minutes.	Perfusion time is defined as an accumulated total of CPB and/or coronary perfusion assist minutes. The total period of cardiopulmonary bypass. This time period (Cardiopulmonary Bypass Time) includes all periods of cerebral perfusion and sucker bypass. This time period (Cardiopulmonary Bypass Time) excludes any circulatory arrest and modified ultrafiltration periods. If more than one period of CPB is required during the surgical procedure, the sum of all the CPB periods will equal the total number of CPB minutes.	Operative notes Operative record Perfusion record
2780	LwstTemp	Record the patient's lowest core temperature during the procedure in degrees centigrade.	The intent is to capture the lowest documented temperature, this may be core, bladder or tympanic.	Operative notes Operative record Perfusion record Anesthesia record

October 2011	The op note has one temperature, the anesthesia record has another. Which do I use?		Use a consistent source document, preferably the perfusion record for lowest core temperature.	
October 2011	If the CAB was done off pump, do I still need to record the lowest core temperature?		No, lowest core temp is a child field of combination or full CPB.	
2790	LwstHct	Enter the lowest Hematocrit recorded during procedure.	The intent is to capture the lowest Hct documented.	Operative notes Operative record Perfusion record Anesthesia record
2851-2854	CanArtSt	Indicate arterial site(s) cannulated for CPB. Choose all that apply.	Aortic Femoral Axillary Other	Operative notes Operative record Perfusion record
2856-2863	CanVenSt	Indicate venous site(s) cannulated for CPB, choose all that apply.	Femoral Jugular Right Atrial Left Atrial Pulmonary Vein Caval/BiCaval Other	Operative notes Operative record Perfusion record
2865	CircArr	Indicate whether or not circulatory arrest was utilized during the procedure.	Circulatory arrest is defined as the complete cessation of blood flow to the patient.	Operative notes Operative record Perfusion record
2866	DHCATm	Indicate the total circulatory arrest time in minutes.	Indicate the total number of minutes of complete cessation of blood flow to the patient. This time period (Circulatory Arrest Time) excludes any periods of cerebral perfusion. If more than one period of circulatory arrest is required during this surgical procedure, the sum of these periods is equal to the total duration of circulatory arrest	Operative notes Operative record Perfusion record
2867	CPerfUtil	Indicate whether circulatory arrest with cerebral perfusion was performed.	Selective cerebral perfusion is a technique that involves providing blood flow and metabolic support to the brain while the blood flow to the rest of the body is stopped during circulatory arrest. This approach is commonly used during complex surgery that requires circulatory arrest. It offers more protection for the brain and minimizes the risk of stroke and other serious complications.	Operative notes Operative record Perfusion record
2868	CPerfTime	Indicate the total number of minutes cerebral perfusion was performed. This would include antegrade and/or retrograde cerebral perfusion strategies.	If more than one period of cerebral perfusion was used, add the times for the total cerebral perfusion time.	Operative notes Operative record Perfusion record

2869	CPerfTyp	Indicate type of cerebral perfusion utilized.	Choose antegrade, retrograde or both antegrade and retrograde.	Operative notes Operative record Perfusion record
2870	AortOccl	Indicate the technique of aortic occlusion used.	Identify the method used to prevent blood from circulating through the heart and to allow the delivery of cardioplegia into the aortic root to arrest the heart. In procedures where cardioplegia is not administered for myocardial protection, but a cross clamp is applied to isolated diseased sections of the aorta (i.e. descending thoracic or thoracoabdominal aneurysm repairs) the appropriate response to aortic occlusion is aortic cross clamp. You should populate the cross clamp time field with the appropriate minutes of cross clamp time. The Cardioplegia field would be equal to No. Externally, the aortic cross clamp is used. Internally, balloon occlusion is used. Choose: None - beating heart None - fibrillating heart Aortic Cross clamp Balloon Occlusion	Operative notes Operative record Perfusion record
October 2011	If aortic cross clamp is used for a thoracoabdominal aneurysm repair, the procedure is done with a beating heart, what aortic occlusion should I choose?		Choose aortic cross clamp. The next upgrade will differentiate between myocardial cross clamp vs. distal cross clamp.	
July 2011	If a partial occlusion clamp is used, do we code "none, beating heart?"		That is correct for CABG procedures when the clamp is used to isolate a section of the aorta for prox graft insertion. For descending thoracic or thoracoabdominal aneurysm repairs clamp is used to isolate diseased sections of the aorta- choose aortic cross clamp.	
2880	XClampTm	Indicate the total number of minutes the aorta is completely crossed-clamped during bypass. Minutes should not be recorded if partial cross clamp is the highest level of occlusion.	Indicate the total number of minutes that the coronary circulation is mechanically isolated from systemic circulation, either by an aortic cross clamp or systemic circulatory arrest. This time period (Cross Clamp Time) includes all intervals of intermittent or continuous cardioplegia administration. If more than one cross clamp period is required during this surgical procedure, the sum of the cross clamp periods is equal to the total number of cross clamp minutes. Enter zero if the coronary circulation was never mechanically isolated from systemic circulation, either by an aortic cross clamp or systemic circulatory arrest. For the following two operations: (1) "Transplant, Heart", and (2) "Transplant, Heart and Lung", the field "Cross Clamp Time" will be defined as the cross clamp time **of the donor heart**. Therefore, these two operations represent the only operations where the field "Cross Clamp Time" can be greater than the field "Cardiopulmonary Bypass Time".	Operative notes Operative record Perfusion record

October 2011	Which cross clamp time to I choose for thoracoabdominal aneurysm with left heart bypass: Lt. Heart Bypass= 55 min Aortic Cross Clamp time= 53 min Celiac, SMA, renal & leg ischemic time= 28 min		Choose 53 minutes. The next upgrade will address this.	
October 2011	How do I calculate cross clamp time for a heart transplant/LVAD explant procedure?		Use the total DONOR ischemic heart time.	
2900	CplegiaDeliv	Indicate whether cardioplegia was used.	Cardioplegia is a solution that is used to cause the heart to arrest. Choose none if not used, antegrade, retrograde, or both antegrade and retrograde.	Operative notes Operative record Perfusion record
2901	CplegiaType	Indicate the type of cardioplegia used.	Choose: Blood (If any blood is contained in the solution, any ratio) Crystalloid (If solution is only crystalloid) Both (If both types of solutions are used) Other	Operative notes Operative record Perfusion record
6/11	If the cardioplegia solution is 4 parts blood and 1 part crystalloid, is that counted as “Blood” or “Both”?		That is counted as “Blood”. Use “Both” if two different solutions were used during the procedure, 1 with blood and 1 crystalloid. Reference: http://mmcts.ctsnetjournals.org/cgi/content/full/2006/1009/mmcts.2004.000745	
October 2011	Is an injection of potassium added to the pump to stop electrical activity considered an “other” form of cardioplegia?		No, do not code this as other.	
2930	CerOxUsed	Indicate whether cerebral oximetry was used.	Cerebral oximetry is similar to pulse oximetry in that it uses differences in light absorption between oxygenated and deoxygenated hemoglobin to measure regional oxygen saturation.	Operative notes Operative record Perfusion record Anesthesia Record
2940	PreRSO2Lft	Indicate the percent baseline left cerebral regional oxygen saturation (rSO2) values at the beginning of the operation, when the patient is awake and functional.	Patient can be sedated or on supplemental oxygen at the time measurement is taken. In the absence of a user-specified baseline, the cerebral oximeter will automatically select a baseline value from the first few minutes of the case. Units are %.	Operative notes Operative record Perfusion record Anesthesia Record
2950	PreRSO2Rt	Indicate the percent baseline right cerebral regional oxygen saturation (rSO2) values at the beginning of the operation, when the patient is awake and functional.	Patient can be sedated or on supplemental oxygen at the time measurement is taken. In the absence of a user-specified baseline, the cerebral oximeter will automatically select a baseline value from the first few minutes of the case. Units are %.	Operative notes Operative record Perfusion record

2960	CumulSatLft	Indicate the cumulative integral of time and depth of desaturation events below the threshold of 75% of the baseline rSO2 value (relative decline of 25% below baseline) for the left rSO2.	Calculated by the cerebral oximeter by multiplying the difference between the threshold and current rSO2 values times the duration that rSO2 is below the threshold. Values are accumulated throughout the operation. Units are minute-%. This is also called Area Under the Curve (AUC).	Operative notes Operative record Perfusion record
2970	CumulSatRt	Indicate the cumulative integral of time and depth of desaturation events below the threshold of 75% of the baseline rSO2 value (relative decline of 25% below baseline) for the right rSO2.	Calculated by the cerebral oximeter by multiplying the difference between the threshold and current rSO2 values times the duration that rSO2 is below the threshold. Values are accumulated throughout the operation. Units are minute-%. This is also called Area Under the Curve (AUC).	Operative notes Operative record Perfusion record
2980	COFirstInd	Indicate whether the cerebral oximeter provided the first indication of a technical problem or physiological change in the patient that could potentially lead to an adverse patient outcome.	Indicate whether the cerebral oximeter provided the first indication of a technical problem or physiological change in the patient that could potentially lead to an adverse patient outcome. If no technical problem is identified or change in therapy is initiated secondary to the cerebral oximetry reading, please mark this field as “No”.	Operative notes Operative record Perfusion record
2990	SCRSO2Lft	Indicate the left cerebral regional oxygen saturation of blood (rSO2) value at the time of skin closure at the end of the operation.	It indicates whether the rSO2 values have changed significantly from the baseline values, either for the better or worse. Units are %.	Operative notes Operative record Perfusion record
3000	SCRSO2Rt	Indicate the right cerebral regional oxygen saturation of blood (rSO2) value at the time of skin closure at the end of the operation.	It indicates whether the rSO2 values have changed significantly from the baseline values, either for the better or worse. Units are %.	Operative notes Operative record Perfusion record
3005	ConCalc	Indicate whether concentric calcification of the aorta was discovered preoperatively or intraoperatively using imaging or palpation.	The intent is to capture when and if concentric calcification is discovered. This may impact the surgeons approach to cannulation.	Operative notes Operative record Perfusion record
October 2011	Is concentric calcification the same as circumferential calcification?		Yes, it may also be described as porcelain aorta.	
October 2011	Do you capture descending calcification? What if it is only mentioned as root calcification?		Do not capture descending calcification. The concern is for the area of the aorta that will be cannulated, clamped or otherwise manipulated during the case. Calcification or atheroma in this area can predispose the patient to stroke.	

			Count root as ascending calcification.	
October 2011	Do I only code calcification if it changed our plan?		No, code all that is documented whether or not it changed the plan.	
3010	AsmtAscAA	Indicate whether the Ascending Aorta/Arch was evaluated during surgery using TEE or epiaortic ultrasound	The aorta can be assessed with ultrasound or echocardiography to evaluate degree of calcification.	Op Note Operative record
3020	AsmtAoDx	Indicate highest grade of disease in the ascending aorta indicated on epiaortic ultrasound or TEE.	Choose: Normal Aorta Extensive intimal thickening Protruding Atheroma < 5 mm Protruding Atheroma ≥ 5 mm Mobile Plaques Not Documented Reference: Katz ES, Tunick PA, Rusinek H, Ribakove G, Spencer FC, Kronzon I. Protruding aortic atheromas predict stroke in elderly patients undergoing cardiopulmonary bypass: experience with intraoperative transesophageal echocardiography. J Am Coll Cardiol (1992) 20:70–7.	Op record Anesthesia record Surgical Report
Aug 2012	If a surgeon's documentation of Ao disease is: "At operation, the epiaortic ultrasound demonstrated severe calcification, and therefore, manipulation of the ascending aorta with a partial occlusion clamp or by cardiopulmonary artery bypass was contraindicated" and available references state that "severe" atherosclerosis is defined as "An area of thickening of >5mm with one or more of : marked calcification or protruding or mobile atheroma", would it be acceptable to code #4 protruding atheroma>=5mm with the above noted documentation?		Mark yes to concentric calcification and whether the assessment altered the plan. Do not mark protruding atheroma if it is not documented.	
3030	AsmtAPln	Indicate if aortic assessment changed surgical plan	This assessment can assist the surgeon with selection of optimal site for cannulation of ascending aorta or may prompt decision to select alternate arterial cannulation site or an off pump approach.	Op record

3040	IBldProd	Indicate whether blood products were transfused any time intraoperatively during the initial surgery. NOTE: For these Intraop Blood Product data fields the intent is to ONLY collect blood products that were transfused any time intraoperatively during the INITIAL SURGERY.	Intraoperative is defined as any blood started inside of the OR.	Perfusion record Operative record Blood transfusion sheet Anesthesia record
3050	IBldProdRef	Indicate whether the patient or family refused blood products.		Blood refusal consent form Perfusion record Operative record Physician progress notes
3060	IBdRBCU	Capture the number of units of packed Red Blood Cells that were transfused intraoperatively.	Do not include autologous, cell-saver, pump-residual or chest tube recirculated blood.	Blood transfusion sheet Perfusion record Operative record Anesthesia record
3070	IBdFFPU	Capture the number of units of Fresh Frozen Plasma (FFP) that were transfused intraoperatively.		Anesthesia record Blood transfusion sheet Operative record Perfusion record
3080	IBdCryoU	Capture the number of units of Cryoprecipitate that were transfused intraoperatively.	One bag of Cryo = one unit. The number of units is not volume dependent.	Anesthesia record Blood transfusion sheet Operative record Perfusion record
3090	IBdPlatU	Capture the number of units of Platelets that were transfused intraoperatively.	It is imperative that each site understand their institutions definition for Random Donor Platelets (RDP) and Single Donor Platelets (SDP). Following is a guideline for assessing platelet utilization across multiple medical centers. RDP: count the dose pack as one unit. A dose pack may consist of 4, 6, 8, 10, or any number of donor platelets obtained. The number of units coded is not volume dependent. SDP or Platelet phoresis: count as one unit. One unit is comprised of platelets derived from a single donor. The number of units is not volume dependent. The number of units of platelets transfused during the surgical procedure while the patient was in the OR.	Anesthesia record Blood transfusion sheet Operative record Perfusion record

3091	IBbFactorVII	Indicate the amount of Factor VIIa that was given intraoperatively. Units are measured in micrograms per kilogram.	If the dosage is recorded as micrograms, divide by the patient's weight in Kg to get the units.	Anesthesia record Blood transfusion sheet Operative record Perfusion record
3120	IMedEACA	Indicate whether the patient received Epsilon Amino-Caproic Acid in the operating room.	Epsilon-aminocaproic acid (Amicar) is indicated for use in the reduction of blood product requirements during surgery.	Anesthesia record Operative record Perfusion record
3140	IMedTran	Indicate whether the patient received Tranexamic Acid in the operating room.	Tranexamic Acid is indicated for use in the reduction of blood product requirements during surgery.	Anesthesia record Operative record Perfusion record
3157	InOpTEE	Indicate whether intraoperative TEE was performed following procedure.	This is intended to capture TEE done in the O.R. following the procedure.	Anesthesia record Operative record Perfusion record
Aug 2012	Our intraop postop procedure TEE often just describes LV function and does not address each valve, should I say we didn't do the TEE or answer Yes and leave the Information blank? My error reports are very long.		Say yes and leave blank	
July 2011	It is common practice to get a post op TEE; if a valve procedure was not done do we need to fill out the valve sections?		If you have the information, abstract the data.	
October 2011	If a TEE was done following the procedure but the valves are not addressed do I mark none or leave blank?		Leave it blank if the valve is not mentioned in the report. Note: This differs from a formal post op echo (field 5744) where not addressed = not diseased. Formal echo tests are a thorough exam whereas intraop TEE is typically a targeted assessment.	
3158	PRepAR	Indicate the highest level of aortic regurgitation found on post CPB intraop TEE. Mild-to-Moderate should be coded as moderate; moderate to severe should be coded as severe. Amount of AR should be the LAST ASSESSMENT before leaving the operating room. For example: if patient has aortic repair, separates from CPB and TEE indicates moderate AR, surgeon goes back on and re-	None Trace/trivial Mild Moderate Severe	Anesthesia record Operative record Perfusion record

		fixes, comes off and finds no AR, it should be recorded as none.		
3159	PRepMR	Indicate the highest level of mitral regurgitation found on post CPB intraop TEE. Mild-to-Moderate should be coded as moderate; moderate to severe should be coded as severe. Amount of MR should be the LAST ASSESSMENT before leaving the operating room. For example: if patient has mitral repair, separates from CPB and finds moderate MR, surgeon goes back on and re-fixes, comes off and finds no MR, it should be recorded as none.	None Trace/trivial Mild Moderate Severe	Anesthesia record Operative record Perfusion record
3161	PRepTR	Indicate the highest level of tricuspid regurgitation found on post CPB intraop TEE. Mild-to- Moderate should be coded as moderate; moderate to severe should be coded as severe. Amount of TR should be the LAST ASSESSMENT before leaving the operating room.	None Trace/trivial Mild Moderate Severe	Anesthesia record Operative record Perfusion record

J. CORONARY BYPASS **This section is intended to capture information for Coronary Artery Bypass Grafting**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
3165	CABHybrPCI	Indicate whether a hybrid coronary surgical and interventional cardiology procedure was performed.	Options available for treatment of multivessel coronary artery disease may include a combined procedure. Stenting, performed by a cardiologist, combined with grafting, performed by a surgeon.	Operative notes Operative report PCI report
July 2011	Must hybrids be done in the same suite?		No	
3170	HybrStat	Indicate Status of Hybrid procedure.	-Planned - concurrent Planned, performed same setting -Planned - staged Planned, performed same hospital admission -Unplanned -Unplanned, performed after incomplete revascularization or graft closure during the same hospital admission	Operative notes Operative report PCI report
3180	HybrProc	Indicate PCI Procedure performed.	Indicate which Percutaneous Coronary Intervention (PCI) was performed as part of the hybrid procedure. Choose: -Angioplasty -Stent	Operative notes Operative report PCI report
3190	DistArt	Indicate the total number of distal anastomoses with arterial conduits.	Distal anastomosis refers to the connection between the bypass graft (conduit) and coronary artery. Record the total number of **arterial** anastomoses constructed using an arterial conduit connection to a coronary artery. Multiple distals can be constructed from any conduit. Capture each distal anastomosis. Example: LIMA to LAD jumped to the diagonal equals two distal anastomoses. Proximal anastomosis refers to the connection between graft and aorta, or graft and another graft.	Operative notes Operative report
3200	DistVein	Indicate the total number of distal anastomoses with venous conduits.	Distal anastomosis refers to the connection between the bypass graft (conduit) and coronary artery. Record the total number of venous anastomoses constructed using a venous conduit connection to a coronary artery. More than one anastomosis can be constructed from a single vein. Saphenous veins are used as free grafts to bypass any coronary artery.	Operative notes Operative report
3205	DistVeinHTech	Indicate the technique used to harvest the vein grafts.	The technique(s) used to harvest the vein grafts: Endoscopic Direct vision = standard method; through full or partial vein harvest Combination = both endoscopic and direct vision used to harvest the vein grafts Cryopreserved	Operative notes Operative report

3206	SaphHrvstT	Indicate the total time in minutes for saphenous vein harvest-from the time the skin incision is made until the vein is out.	It is important to quantify the harvest and prep times to track resource utilization and provide objective data for RUC surveys and coding. This is important because these values determine the rate at which Medicare and other payers reimburse for procedures.	Operative notes Operative report
3207	SaphPrepT	Indicate the time needed to prepare the harvested graft, from removal until suitable for use.	It is important to quantify the harvest and prep times to track resource utilization and provide objective data for RUC surveys and coding. This is important because these values determine the rate at which Medicare and other payers reimburse for procedures.	OR worksheet
3210	IMAArtUs	Indicate which, if any, internal mammary (IMA) was used for grafts.	To collect which IMA was used to construct grafts: LIMA, RIMA or both or none. IMA may be used as a free graft or pedicled, in situ, graft. A pedicled graft remains connected at its proximal origin (in situ) and requires only a distal anastomosis; i.e. the internal mammary artery.	Operative notes Operative report
3220	NoIMARsn	Indicate the primary reason the IMA was not used as a bypass conduit.	Choose from the following reasons: -The IMA is not a suitable conduit due to size or flow- **The National Quality Forum (NQF) does not consider this exclusion for measure purposes**. -Subclavian stenosis -Previous cardiac or thoracic surgery -Previous mediastinal radiation -Emergent or salvage procedure -No (BYPASSABLE) LAD disease- This can include clean LAD, diffusely diseased LAD or other condition resulting in the LAD not being bypassed	Operative notes Operative report
Aug 2012	The physician did not use an IMA because of paralysis of the right hemi diaphragm. This does not fit into any of the category choices. What do you suggest I do and will this count against us?		This is not NQF approved exclusion so you have to leave this field blank unless the patient had this as a complication from a previous cardiac or thoracic procedure, and then mark the previous surgery exclusion. This would count as not meeting the measure if none of the approved exclusions apply.	
3230	NumIMADA	Indicate the total number of distal anastomoses done using IMA grafts.	To collect the total number of anastomoses constructed using a IMA conduit. More than one anastomosis can be constructed from each IMA; the IMA may be used as a pedicled graft or a free graft. A pedicled graft remains connected at its proximal origin and requires only a distal anastomosis.	Operative notes Operative report
3240	IMATechn	Indicate the technique of (IMA) harvest.	Indicate the technique used to harvest an IMA: Direct vision = standard method; through full or partial sternotomy IMA harvest with the chest open using a standard retractor. Thoracoscopic = endoscopy used for the entire IMA harvest. Combination = both thoracoscopy and direct vision used for IMA harvest. Robotic assisted = robot was used to harvest IMA.	Operative notes Operative report

3260	NumRadArtUs	Indicate the number of radial arteries used.	Enter 0, 1 or 2	Operative notes Operative report
3270	NumRadDA	Indicate the total number of distal anastomoses done using radial artery grafts.	To collect the total number of anastomoses constructed using a radial artery. More than one anastomosis can be constructed from each radial artery.	Operative notes Operative report
3280	RadHTech	Indicate the technique used to harvest the radial artery (ies).	The technique used to harvest the radial artery(ies): Endovascular Direct vision = standard method; through full or partial radial harvest Combination = both endovascular and direct vision used for radial artery harvest	Operative notes Operative report
3285	RadHrvstT	Indicate the total time in minutes for radial artery harvesting-from the time the skin incision is made until the conduit is out.	It is important to quantify the harvest and prep times to track resource utilization and provide objective data for RUC surveys and coding. This is important because these values determine the rate at which Medicare and other payers reimburse for procedures.	Operative notes Operative report
3286	RadPrepT	Indicate the time needed to prepare the harvested graft, from removal until suitable for use.	It is important to quantify the harvest and prep times to track resource utilization and provide objective data for RUC surveys and coding. This is important because these values determine the rate at which Medicare and other payers reimburse for procedures.	Operative notes Operative report
3300	NumOArtD	Indicate the number of other arterial anastomoses that were made other than radial or IMA.	For example: Inferior epigastric artery	Operative notes Operative report

The following section provides instructions and clarification for using the CABG grid. This area is only opened if at least one graft was performed (2436=yes) and will now capture every graft, hybrid PCI and all > 50% diseased vessels .
Review Instructions at: http://www.sts.org/sites/default/files/documents/CABG%20Worksheet%20Directions_111511.pdf

<table>
<tr><td>3355</td><td>CABDisLoc
[01-10]</td><td>Identify Native CAD location causing the need to bypass each of the target vessels. Up to 10 bypass grafts/diseased vessels may be entered.</td><td>Use the following Key and enter appropriate number of the diseased or grafted vessel.
<table>
<tr><td>1 = Left Main</td><td>4 = Distal LAD</td><td>7 = Circ</td><td>10 = OM 3</td><td>13 = PLB</td></tr>
<tr><td>2 = Prox LAD</td><td>5 = Diag 1</td><td>8 = OM 1</td><td>11 = RCA</td><td>14 = AM branch</td></tr>
<tr><td>3 = Mid LAD</td><td>6 = Diag 2</td><td>9 = OM 2</td><td>12 = PDA</td><td>15 = Ramus</td></tr>
</table></td><td>CABG Worksheet
Operative notes
Operative report</td></tr>
<tr><td>Aug 2012</td><td colspan="2">If multiple areas are denoted with the stenosis in the LAD, do I document the amount of stenosis in each area, the highest, or the bypassed area?</td><td colspan="2">Choose the highest level of stenosis</td></tr>
<tr><td>3356</td><td>CABPctSten
[01-10]</td><td>Enter the Highest percentage of stenosis in native coronary vessel.</td><td>If there is more than one area of stenosis reported in a vessel or segment, <u>choose the highest (most severe) percentage.</u></td><td>CABG Worksheet
Operative notes
Operative report</td></tr>
<tr><td>Aug 2012</td><td colspan="2">Multiple questions were submitted concerning coronary artery thrombosis, kinks or dissections that are not atherosclerotic disease and how to code the highest percent stenosis.</td><td colspan="2">Code, if known, the percent of disruption caused by whatever type of lesion is obstructing flow.</td></tr>
<tr><td>3357</td><td>CABPrevCon
[01-10]</td><td>Indicate presence of coronary artery bypass conduit for this vessel and whether or not it is diseased.</td><td>Yes – Diseased
Yes – No disease
No previous conduit</td><td>CABG Worksheet
Operative notes
Operative report</td></tr>
<tr><td>Aug 2012</td><td colspan="2">Does previous conduit apply to in stent restenosis or only to prior CABG/vein grafts? Seems like you are missing key information on prior stents if this very detailed section.</td><td colspan="2">Stents are not CABG/Vein grafts. There are no conduits, only prior grafts. You make a good point and it will be considered for the next version if they are not included in</td></tr>
<tr><td>3360</td><td>CABProximalSite
[01-10]</td><td>Indicate proximal site of the bypass graft.</td><td>-In Situ Mammary (use for mammary grafts unless a “free” IMA is used)
-Ascending aorta (most common, other proximal sites may be chosen if aorta is heavily calcified or not suitable for other reasons)
-Descending aorta
-Subclavian artery
-Innominate artery
-T-graft off SVG
-T-graft off Radial
-T-graft off LIMA
-T-graft off RIMA</td><td>CABG Worksheet
Operative notes
Operative report</td></tr>
</table>

3370	CABProxTech [01-10]	Indicate technique used for proximal anastomosis.	In Situ Mammary Running Interrupted Anastomotic Device (ex. UClip, Spyder, MVP magnetic device) Anastomotic Assist Device (ex. Heartstring, Enclose)	CABG Worksheet Operative notes Operative report
July 2011	If you have running and heartstring for the proximal anastomosis, which do you code?		Code running, heartstring is an anastomotic assist device.	
3380	CABConduit [01-10]	Indicate the conduit type used.	Vein graft In Situ LIMA In Situ RIMA Free IMA Radial artery Other arteries, homograft	CABG Worksheet Operative notes Operative report
3390	CABDistSite [01-10]	Indicate distal insertion site of bypass.	Right Coronary (RCA) Acute Marginal (AM) Posterior Descending Artery (PDA) Posterolateral Branch (PLB) Proximal LAD Mid LAD Distal LAD Diagonal 1 Diagonal 2 Ramus Obtuse Marginal 1 Obtuse Marginal 2 Obtuse Marginal 3 Other	CABG Worksheet Operative notes Operative report
Oct 2011	There is no option to choose the Circumflex as a distal insertion site.		The circumflex runs deep in the AV groove ant therefore rarely bypassed. If the actual Cx is grafted or angioplastied in a hybrid procedure, choose other	
3400	CABDistTech [01-10]	Indicate technique used for distal anastomosis.	Running Interrupted Clips Anastomotic Device	CABG Work sheet Operative notes Operative report
3410	CABDistPos [01-10]	Indicate anastomotic position.	End to side Sequential (side to side)- sometimes called a jump graft	CABG Work sheet Operative notes
3420	CABEndArt [01-10]	Indicate whether endarterectomy was performed.	Endarterectomy is a surgical procedure to remove the atheromatous *plaque* material, or blockage, in the lining of an artery constricted by the buildup of soft/hardening deposits. It is carried out by separating the plaque from the arterial wall. Endarterectomy is used as a supplement to a vein bypass graft to open up distal segments of the	CABG Work sheet Operative notes Operative report

			coronary artery.	
3430	CABHyPCI [01-10]	Indicate whether hybrid PCI procedure was performed in conjunction with this graft.	Options available for treatment of multivessel coronary artery disease may include a combined procedure. Stenting, performed by a cardiologist, combined with grafting, performed by surgeon.	CABG Work sheet Operative notes Operative report
The elements above are repeated for each graft. CABG#2-10				

K. VALVE SURGERY				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
4270	VSAV	Indicate whether an aortic valve procedure was performed.	Include all AV procedures (aortic valve replacement, resuspension or repair- see below) done during this surgery.	Valve Worksheet Operative notes Operative report
4280	VSAVPr	Indicate procedure performed on aortic valve and/or ascending aorta.	-Replacement -Repair / Reconstruction -Root Reconstruction with valved conduit -Replacement and insertion aortic non-valved conduit -Resuspension AV without replacement of ascending aorta -Resuspension AV with replacement of ascending aorta -Apico-aortic conduit (Aortic valve bypass) -Autograft with pulmonary valve- Ross procedure -Homograft -Valve sparing root reimplantation (David) -Valve sparing root remodeling (Yacoub)	Valve Worksheet Operative notes Operative report
December 2013	How do you code the procedure when the valve is attached from the ventricle to the descending thoracic aorta?		Ascending aortic conduit is coded in sequence number 4280, it is no longer captured in other cardiac other in sequence number 5590.	
Aug 2012	How would I code an Aortic Valve replacement that also had a ventricular septal myomectomy performed? Would I code other cardiac procedures-other? Or would it be an isolated valve?		This is an AVR with resection of subaortic stenosis. It is considered an isolated AVR.	
Aug 2012	Patient received a LVAD placement with an Aortic Valve repair with central Sun stitch. How do I code this in the Aortic Valve procedure section?		Do not code anything under AV surgery; this is part of the VAD procedure.	
4282	VSAVRComA	Indicate whether the aortic valve repair procedure included a commissural annuloplasty.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4283	VSAVRRingA	Indicate whether the aortic valve repair procedure included a ring annuloplasty.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report

4284	VSAVRPlic	Indicate whether the aortic valve repair procedure included leaflet plication.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4285	VSAVRLResect	Indicate whether the aortic valve repair procedure included leaflet resection.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4286	VSAVRPTFE	Indicate whether the aortic valve repair procedure included leaflet free edge reinforcement (PTFE) suture.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4287	VSAVRLPPatch	Indicate whether the aortic valve repair procedure included leaflet pericardial patch.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4288	VSAVRComRS	Indicate whether the aortic valve repair procedure included leaflet commissural resuspension suture.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4289	VSAVRDeb	Indicate whether the aortic valve repair procedure included leaflet debridement.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4290	VSAVRRaphe	Indicate whether the aortic valve repair procedure included division of fused leaflet raphe.	Reference: Aortic Valve Repair	Valve Worksheet Operative notes Operative report
4295	VSTCV	Indicate whether the aortic valve repair procedure included placement of a transcatheter valve.	Transcatheter Aortic Valve Replacement (TAVR) technology is designed to allow some patients, who may not be candidates for conventional open-heart valve replacement surgery due to excessive risk, to obtain a life-saving valve.	Valve Worksheet Operative notes Operative report
October 2013	Patient was scheduled for TAVR and enters the suite. The TAVR is aborted and only valvuloplasty is done. Is this a cancelled case? Should it be included?		***Yes, include this as a cancelled case.***	
October 2013	If a TAVR case has to go on pump due to complications, should this be collected as unplanned procedure.		***No, this is still a valve, just on pump***.	
Aug 2012	One of our patients was scheduled for a TAVR and they were unable to perform the procedure. Instead, they performed a vavluloplasty. Since the patient did not have TAVR, would they still need to be included in the STS database? If yes, in what section would		Balloon valvuloplasty would not be included in this Database.	

	the vavuloplasty information be collected?			
4300	VSTCVR	Indicate transcatheter valve replacement approach.	TAVR devices may be implanted via multiple vascular routes: Transapical, Transaxillary, or Transfemoral.	Valve Worksheet Operative notes Operative report
4310	AnlrEnl	Indicate whether an annular enlargement procedure was performed on the Aortic Valve. An aortic annular enlargement is defined as incision of the aortic annulus to enlarge the aortic orifice. Annular enlargement techniques include but are not limited to Manouguian, Konno and Nicks.	Enlargement of the aortic annulus during aortic valve replacement permits insertion of a larger prosthetic valve. Reference: http://ats.ctsnetjournals.org/cgi/content/full/83/6/2044	Valve Worksheet Operative notes Operative report
4311	ResectSubA	Indicate whether resection of sub-aortic tissue was performed alone or in conjunction with an aortic valve procedure.	Subaortic stenosis (or subvalvular aortic stenosis) is a narrowing of the area below the aortic valve. This may vary from a thin layer of extra tissue to large bundles of heart muscle. **This procedure is sometimes called 'septal myomectomy'.**	Valve Worksheet Operative notes Operative report
Aug 2012	Patient with hypertrophic obstructive cardiomyopathy had resection of hypertrophic septum. How is this coded: Other cardiac procedure: other? Or is there a congenital surgery that fits this? To choose Resection of sub-aortic stenosis I have to choose Aortic Valve Procedure and we didn't do one.		Answer 4270=yes, 4280=blank, 4295=no, 4310=no and 4311=yes This will be addressed in the next version	
October 2011	If the only procedure is resection of subaortic stenosis, do you leave all the other valve fields blank since it is a child of 4270, AV Surgery?		Answer 4270=yes, 4280=blank, 4295=no, 4310=no and 4311=yes	
4330	VSAoIm	Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.	The model number is on device packaging and will be recorded in the operative record to identify the device. These numbers are created by the manufacturers and may start or end with numbers that reflect the device size.	Valve Worksheet Operative notes Operative report

The date in the upper left corner reflects the most recent update. FAQs will be posted in the relevant section.
Please do not print this document so that you are guaranteed to have the most recent version.

October 2011	If the patient has resuspension of the aortic valve, the device fields open. Do I leave this blank?		The updated valve & VAD list, version 2.73.2 includes additional devices and options for: -Other US FDA-Approved Device -Other Non-US FDA-Approved Device -None (Leave the size blank if you choose none)	
4340	VSAoImSz	Indicate the Aortic implant size.		Valve Worksheet Operative notes Operative report
4351	VSMV	Indicate whether a mitral valve procedure was performed.		Valve Worksheet Operative notes Operative report
Aug 2012	What would I code for Mitral Procedure Repair Performed: Patient was admitted due to TIA vs CVA and found to have mobile density on the mitral valve. When she went to the OR it turned out to be an accessory chordae that was "floppy" so they removed it. Is this urgent: TIAs or valve dysfunction?		Yes it is urgent, the reason is anatomy. The surgery is repair, leave details blank since none apply. A category will need to be added for 'other'	
October 2011	Is the deployment of an amplatzer plug to close a perivalvular leak done by a surgeon & cardiologist in the cath lab coded as a MV repair?		No, do not enter this case in the STS Database.	
Aug 2011	Should mitral valve clip procedures done by a surgeon & cardiologist in the cath lab be included in the database as mitral procedures?		~~Yes, code yes to 4351, in 4352 code repair and the type to select in 4403 is edge to edge repair.~~	
March 2014			Mitral clips cannot be analyzed separately in v.2.73 and should only be entered if participants understand that these will be counted with surgical mitral repairs. These should be entered in the version 2.8 if performed by a surgeon participating in the ACSD when it becomes effective 7/1/14.	
4352	VSMVPr	Indicate the type of procedure that was performed on the mitral valve.	Choose mitral repair or replacement. Mitral valve repair is preferred whenever technically feasible over valve replacement.	Valve Worksheet Operative notes Operative report
4361	VSMitRAnnulo	Indicate whether the mitral valve repair procedure included an annuloplasty.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4362	VSMitRLeafRes	Indicate whether the mitral valve repair procedure included a leaflet resection.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4380	VSLeafResTyp	Indicate the type of leaflet resection.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report

August 2013	Pt. had very complex MV repair including triangular resection A3 and quadrangular resection P2, neochords, ring, etc. re: Leaflet Resection Type: I can't key both triangular and quadrangular and there is no definition of what "other" is. Is other = both triangular + quadrangular? If not, what is 'other' for? Please tell me what to key for this field.		Code the more complex of the resections in this circumstance.	
4390	VSLeafRepLoc	Indicate whether the repair involved the anterior, posterior, or both leaflets. Commissural closure stitches do not make a bileaflet repair. A commissurotomy IS a bileaflet repair.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4391	VSMitRepSlidP	Indicate whether the mitral valve repair procedure included a sliding plasty.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4393	VSMitRADecalc	Indicate whether the mitral valve repair procedure included an annular decalcification.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4394	VSMitRPTFE	Indicate whether the mitral valve repair procedure included neochords (PTFE).	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4400	VSNeoChNum	Indicate the number of neochords inserted - 1 neochord is created from 1 double arm suture.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4401	VSMitRChord	Indicate whether the mitral valve repair procedure included a chordal / leaflet transfer.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4402	VSMitRLeafERP	Indicate whether the mitral valve repair procedure included a leaflet extension / replacement / patch.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4403	VSMitREdge	Indicate whether the mitral valve repair procedure included an edge to edge	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report

		repair.		
4404	VSMitRMitComm	Indicate whether the mitral valve repair procedure included a mitral commissurotomy.	Reference: Mitral Repair	Valve Worksheet Operative notes Operative report
4410	MitralIntent	Indicate whether a Mitral Valve Repair was attempted prior to the Mitral Valve Replacement.	The intent is to capture repair attempts in the same operative setting, do not capture valve repairs that fail after the patient leaves the operating room. Preservation of the native valve and surrounding structures is preferable to replacement when possible. The surgeon may attempt repair prior to replacement.	Valve Worksheet Operative notes Operative report
4430	VSMiIm	Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for device size.	The model number is on device packaging and will be recorded in the operative record to identify the device. These numbers are created by the manufacturers and may start or end with numbers that reflect the device size.	Valve Worksheet Operative notes Operative report
4440	VSMiImSz	Indicate the Mitral implant size.		Valve Worksheet Operative notes Operative report
October 2011	The surgeon coded an On-X valve size as 25/33. What is the size?		Code 25 for the valve implant size, the larger number is the sewing ring diameter.	
4450	VSChorPres	Indicate whether native chords were preserved.	Preserving the native chords helps maintain ventricular structure and function.	Valve Worksheet Operative notes Operative report
October 2011	In a mitral valve replacement if the leaflets only are resected, leaving the chords, how do I code this?		Code as Both chords preserved.	
October 2011	My surgeon says that preserving chords pertains only to replacements and is not applicable to repairs. How do I answer this for MV repair?		Your surgeon is correct! Leave it blank for mitral valve repairs. This will be fixed in the next update.	
4500	OpTricus	Indicate whether a surgical procedure was done on the tricuspid valve and if so, select procedure.	The tricuspid valve is on the right side of the heart, between the right atrium and the right ventricle. The normal tricuspid valve usually has three leaflets and three papillary muscles. Choose: No Annuloplasty Only Replacement	Valve Worksheet Operative notes Operative report

			Reconstruction with Annuloplasty Reconstruction without Annuloplasty Valvectomy	
Aug 2012	Patient admitted with STEMI probable RV infarct. CAB + TV Repair (Ring annuloplasty). Difficulty coming off pump, thought due to RV failure due to increased resistance thought due to repair TV. The ring was removed. How should the TV procedure be collected? What would the final Op CAT be? Should I collect this as TV repair and collect the ring - or should I collect this as CAB only. Or collect TV reconstruction without annuloplasty?		Collect as CAB only since the ring was removed	
4510	OpTricusAnTy	Indicate type of annuloplasty procedure.	Pericardium Suture Prosthetic ring	Valve Worksheet Operative notes Operative report
October 2011	There is no choice for annuloplasty band, what do I code?		Choose prosthetic ring	
4540	VSTrIm	Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.	The model number is on device packaging and will be recorded in the operative record to identify the device. These numbers are created by the manufacturers and may start or end with numbers that reflect the device size.	Valve Worksheet Operative notes Operative report
4550	VSTrImSz	Indicate the Tricuspid implant size.		Valve Worksheet Operative notes Operative report
4560	OpPulm	Indicate whether a surgical procedure was done or not done on the Pulmonic Valve.	The pulmonic valve is the semilunar valve of the heart that lies between the right ventricle and the pulmonary artery and has three cusps. Choose: No Replacement Reconstruction Valvectomy	Valve Worksheet Operative notes Operative report
4580	VSPulm	Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.	The model number is on device packaging and will be recorded in the operative record to identify the device. These numbers are created by the manufacturers and may start or end with numbers that reflect the device size.	Valve Worksheet Operative notes Operative report

4590	VSPulmSz	Indicate the Pulmonic implant size.		Valve Worksheet Operative notes Operative report

L. MECHANICAL CARDIAC ASSIST DEVICES				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
4610	IABP	Indicate whether the patient was placed on Intra-Aortic Balloon Pump (IABP).	IABP is a device inserted into the descending thoracic aorta distal to the left subclavian and proximal to the renal arteries used to increase coronary blood flow and decrease work of the left ventricle. Balloon catheter inflates and deflates rapidly in conjunction with cardiac cycle. Inflation of the balloon partially obstructs the aorta, diverting more blood into coronary arteries. Deflation of the balloon just prior to systole, allows blood to be more easily ejected by the left ventricle.	Cardiac cath record Critical care notes Operative record Perfusion record Physician progress notes
4620	IABPWhen	Indicate when the IABP was inserted.	Identify when the IABP was inserted as it relates to the cardiac operation. Preoperatively refers to the IABP placement in the cath lab or in the ICU prior to patient entering the operating room. Intraoperatively refers to insertion of the IABP during the cardiac operation. Postoperatively refers to insertion of the IABP after the patient has left the operating room.	Cardiac cath record Critical care notes Operative record Perfusion record Physician progress notes
4630	IABPInd	Indicate the PRIMARY reason for inserting the IABP.	The reason for inserting an IABP as it relates to the cardiac operation. Choose one of the following: - Hemodynamic instability (hypotension/shock) - PTCA/PCI support - Unstable angina - CPB weaning failure - Prophylactic	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4640	IABPRemDt	Indicate the date on which the IABP was removed.	If there was more than one episode of IABP support post op, choose the date of removal closest to discharge.	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4660	CathBasAssist	Indicate whether the patient was placed on a catheter based assist device (e.g., Impella).	Catheter based assist devices offer short term minimally invasive circulatory support. Examples include Impella, Tandem Heart	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
Aug 2012	If a catheter base assist device is done (by the surgeon) as a stand-alone case is it captured in the database?		No, you do not need to create a record for this case.	
October 2011	Does a Tandem Heart get captured here and in VAD?		No, only capture tandem heart in the fields related to catheter based assist devices.	

4670	CathBas AssistDev	Indicate the catheter based assist device that was used.	Choose: Impella Tandem Heart Other	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4690	CathBas AssistWhen	Indicate when the catheter based assist device was inserted.	Preoperatively refers to placement in the cath lab or in the ICU prior to patient entering the operating room. Intraoperatively refers to insertion during the cardiac operation. Postoperatively refers to insertion after the patient has left the operating room.	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4700	CathBas AssistInd	Indicate the primary reason for inserting the device.	The goal is to identify the reason the device was inserted. Hemodynamic Instability Cardiopulmonary Bypass (CPB) weaning failure PCI Failure Other	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4710	CathBas Assist RemDt	Indicate the date on which the catheter based assist device was removed.		Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4730	ECMO	Indicate whether patient was placed on ECMO	ECMO, which stands for Extracorporeal Membrane Oxygenation, functions as a replacement for a critically ill patient's heart and lungs. It is used to support a patient who is awaiting surgery, or to give vital organs time to recover from heart surgery or disease. It can also be used to rewarm victims of hypothermia or drowning.	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
December 2013	Does the insertion of ECMO take the case out of the isolated category?		No, the insertion of ECMO is coded as a mechanical assist device. It is not a procedure included in the procedure identification table.	
4740	ECMO When	Indicate when patient was placed on ECMO.	Preoperatively refers to placement in the cath lab or in the ICU prior to patient entering the operating room. Intraoperatively refers to insertion during the cardiac operation. Postoperatively refers to insertion after the patient has left the operating room. Non-Operative refers to patients who have ECMO initiated by a CT surgeon but are not having a CT surgery procedure.	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes

4750	ECMO Ind	Indicate clinical indication for placing patient on ECMO.	The intent is to capture the indication for ECMO Cardiac Failure Respiratory Failure Hypothermia Rescue/salvage	Critical care notes Cardiac cath record Operative record Perfusion record Physician progress notes
4760	PrevVAD	Indicate if at the time of this procedure, the patient has a VAD in place that was inserted during a previous admission or from an outside hospital.	The intent is to capture patients who come to the OR with a VAD in place, do not code yes for previous VADs that were placed and removed prior to this procedure.	Consultations History & Physical Operative notes Operative report
4770	PrevVAD F	Indicate if the previously implanted device was implanted at another facility.		Consultations History & Physical Operative notes Operative report
4771	PrevVAD D	Indicate insertion date of previous VAD.		Consultations History & Physical Operative notes Operative report
4772	PrevVAD Ind	Specify indication for VAD insertion.	**Bridge to Transplantation** Includes those patients who are supported with a VAD until a heart transplant is possible. **Bridge to Recovery** Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, postcardiotomy syndromes, viral cardiomyopathies, AMI w/ revascularization, and post-transplant reperfusion injury). **Destination** Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support. **Post Cardiotomy Ventricular Failure** Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart-lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure. **Device Malfunction** Includes those patients who are currently VAD supported and are experiencing device failure. **End of Life** Mechanical device pump has reached functional life expectancy and requires replacement.	Consultations Discharge summary History & Physical Operative notes Operative report Physician progress notes

4773	PrevVAD Ty	Indicate type of VAD previously inserted.	RVAD -Right Ventricular Assist Device LVAD -Left Ventricular Assist Device BiVAD -BiVentricular Assist Device TAH -Total Artificial Heart	Consultations Discharge summary History & Physical Operative notes Operative report Physician progress notes
4774	PrevVAD Device	Indicate Previous VAD device.	Choose from device list.	Consultations Discharge summary History & Physical Operative notes Operative report Physician progress notes
4790	VADInd	Indicate the reason for implanting a Ventricular Assist Device (VAD) during this procedure.	**Bridge to Transplantation** Includes those patients who are supported with a VAD until a heart transplant is possible. **Bridge to Recovery** Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, postcardiotomy syndromes, viral cardiomyopathies, AMI w/ revascularization, and post-transplant reperfusion injury). **Destination** Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support. **Post Cardiotomy Ventricular Failure** Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart-lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure. **Device Malfunction** Includes those patients who are currently VAD supported and are experiencing device failure. **End of Life** Mechanical device pump has reached functional life expectancy and requires replacement.	Consultations Discharge summary History & Physical Operative notes Operative report Physician progress notes
4850	VImpTy	Indicate the first type of VAD implanted during this hospitalization.	RVAD-Right Ventricular Assist Device LVAD-Left Ventricular Assist Device BiVAD-BiVentricular Assist Device TAH-Total Artificial Heart	Operative notes Operative report
4880	VProdTy	Indicate the specific product implanted. Implant is defined as physical placement of the VAD.	Choose from device list.	
4890	VImpDt	Indicate the date the VAD was implanted.		

4900	VExp	Indicate if the VAD was explanted. Explant is defined as physical removal of the VAD.		Operative notes Operative report
4910	VExpDt	Indicate the date the VAD was explanted.	Date in the format mm/dd/yyyy	Discharge summary Operative notes Operative report Physician progress notes
4920	VExpRsn	Indicate the reason the VAD was explanted.	**Cardiac Transplant**-VAD was explanted for cardiac transplant. **Recovery**-VAD was removed after cardiac recovery. **Device Transfer**-VAD was explanted in order to implant another assist device. **Device-Related Infection**-An infection within the pump pocket, driveline, VAD endocarditis, or other infection requiring explantation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and/or fever requiring medical or surgical intervention. **Device Malfunction**-The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement. **End of Life**-Mechanical device pump has reached functional life expectancy and requires replacement. Note: Code “No” if the patient expires with the VAD in place; the VAD was never explanted.	Discharge summary Operative notes Operative report Physician progress notes
4930	VTxDt	Indicate the date the patient received a cardiac transplant.	Date in the format mm/dd/yyyy	Discharge summary Operative notes Operative report Physician progress notes
4940	VImp2	Indicate whether a second ventricular device was implanted.		Operative notes Operative report
4950	VImpTy2	Indicate the second type of ventricular assist device implanted.	RVAD-Right Ventricular Assist Device LVAD-Left Ventricular Assist Device BiVAD-BiVentricular Assist Device TAH-Total Artificial Heart	Discharge summary Operative notes Operative report Physician progress notes
4980	VProdTy 2	Indicate the specific product # 2 implanted. Implant is defined as physical placement of the VAD.	Select the type from the list on the vs. 2.61 Data Collection Form.	Operative notes Operative report

4990	VImpDt2	Indicate the date the VAD # 2 was implanted.	Date in the format mm/dd/yyyy	Operative notes Operative report
5000	VExp2	Indicate if the VAD # 2 was explanted. Explant is defined as physical removal of the VAD.		Discharge summary Operative notes Operative report Physician progress notes
5010	VExpDt2	Indicate the date VAD # 2 was explanted.	Date in the format mm/dd/yyyy	Discharge summary Operative notes Operative report Physician progress notes
5020	VExpRsn 2	Indicate the reason the VAD #2 was explanted.	**Cardiac Transplant**-VAD was explanted for cardiac transplant. **Recovery**-VAD was removed after cardiac recovery. **Device Transfer**-VAD was explanted in order to implant another assist device. **Device-Related Infection**-An infection within the pump pocket, driveline, VAD endocarditis, or other infection requiring explantation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and/or fever requiring medical or surgical intervention. **Device Malfunction**-The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement. **End of Life**-Mechanical device pump has reached functional life expectancy and requires replacement. Note: Code “No” if the patient expires with the VAD in place; the VAD was never explanted.	Discharge summary Operative notes Operative report Physician progress notes
5030	VTxDt2	Indicate the date the patient received a cardiac transplant.	Date in the format mm/dd/yyyy	Discharge summary Operative notes Operative report Physician progress notes
5040	VImp3	Indicate whether a third ventricular assist device was implanted.		Operative notes Operative report
5050	VImpTy3	Indicate the third type of ventricular assist device implanted.	RVAD-Right Ventricular Assist Device LVAD-Left Ventricular Assist Device BiVAD-BiVentricular Assist Device TAH-Total Artificial Heart	Operative notes Operative report

5080	VProdTy 3	Indicate the specific product # 3 implanted. Implant is defined as physical placement of the VAD.		Operative notes Operative report
5090	VImpDt3	Indicate the date the VAD # 3 was implanted.	Date in the format mm/dd/yyyy	Operative notes Operative report
5100	VExp3	Indicate if the VAD #3 was explanted. Explant is defined as physical removal of the VAD.		Operative notes Operative report
5110	VExpDt3	Indicate the date VAD # 3 was explanted.	Date in the format mm/dd/yyyy	Discharge summary Operative notes Operative report Physician progress notes
5120	VExpRsn 3	Indicate the reason the VAD # 3 was explanted.	**Cardiac Transplant**-VAD was explanted for cardiac transplant. **Recovery**-VAD was removed after cardiac recovery. **Device Transfer**-VAD was explanted in order to implant another assist device. **Device-Related Infection**-An infection within the pump pocket, driveline, VAD endocarditis, or other infection requiring explantation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and/or fever requiring medical or surgical intervention. **Device Malfunction**-The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement. **End of Life**-Mechanical device pump has reached functional life expectancy and requires replacement. Note: Code "No" if the patient expires with the VAD in place; the VAD was never explanted.	Discharge summary Operative notes Operative report Physician progress notes
5130	VTxDt3	Indicate the date the patient received a cardiac transplant.	Date in the format mm/dd/yyyy	Operative notes Operative report Physician progress notes
5140	PVCmpBl d	Indicate if the patient had an intracranial bleed, confirmed by CT scan or other diagnostic studies.	An intracranial bleed or deep intracerebral hemorrhage is a type of stroke caused by bleeding within the deep structures of the brain.	CT Scan Discharge summary Physician progress notes
5150	PVCmpE St	Indicate if the patient had embolic stroke caused by a blood clot, air embolus, or tissue, confirmed by CT scan or other diagnostic studies.	A type of ischemic stroke that occurs when a blood clot, air embolus, or tissue floats into the brain and becomes trapped inside an artery blocking blood flow through that artery. Thromboembolism is one of the main concerns in patients with VADs. The reported incidence of thromboembolic events ranges from 10% to 25%.	CT Scan Discharge summary Physician progress notes

5160	PVCmpDCI	Indicate if the patient had a driveline and/or cannula infection.	Driveline and/or cannula infection is defined as the presence of erythema, drainage, or purulence at the VAD connection site, whether entering or exiting the body, in association with leukocytosis and/or in the presence of positive cultures (if available). Intermacs definition: A positive culture from the skin and /or tissue surrounding the drive line or from the tissue surrounding the external housing of a pump implanted within the body, coupled with the need to treat with antimicrobial therapy, when there is clinical evidence of infection such as pain, fever, drainage, or leukocytosis.	Lab cultures Physician progress notes
5170	PVCmpPPI	Indicate if the patient had a pump pocket infection.	A pump pocket infection is defined as a persistent drainage in the physical location of the pump, located in the pre-peritoneal area or intra-abdominally, with positive cultures from the pocket site, evidence of fluid collection around the pump pocket by CT, or U/S.	Lab cultures Physician progress notes
5180	PVCmpEnd	Indicate if the patient had VAD endocarditis.	VAD endocarditis is defined as an infection of the blood contacting surface of the VAD device itself. This may include: • internal surfaces • graft material • inflow/outflow valves of the VAD	Echo report Physician progress notes
5190	PVCmpMal	Indicate if the pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement.		Consultations Nursing notes Physician progress notes
5191	PVCmpHem	Indicate whether patient experienced clinical signs of hemolysis (anemia, low hematocrit, hyperbilirubinemia) and a plasma free hemoglobin > 40 mg/dl within 72 hours of VAD implant.	Do not include hemolysis resulting from non-device causes such as transfusion or drug reactions.	Consultations Nursing notes Physician progress notes
5200	PVCmpBO	Capture if documentation in the medical record indicates the patient was diagnosed with a bowel obstruction post VAD insertion.	Abdominal placement of VAD hardware places patients at risk for the development of serious abdominal complications. A small abdominal cavity in patients with VAD may predispose them to bowel obstruction as the hardware may adhere to the intestines.	Consultations Nursing notes Physician progress notes
5210	VADDiscS	Indicate the VAD status at discharge from the hospital.	With VAD Without VAD Expired in hospital	Discharge summary Nursing notes

M. OTHER CARDIAC PROCEDURES **This section is intended to capture other Cardiac Procedures.**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
5220	OCarLVA	Indicate if the patient had a Left Ventricular Aneurysm (LVA) repair either in conjunction with or as the primary surgical procedure.	An LV aneurysm is a section of defective wall that bulges outward, usually produced by transmural infarction.	Discharge summary Operative notes Operative report Physician progress notes
5230	OCarVSD	Indicate whether the patient had a Ventricular Septal Defect (VSD) Repair, either in conjunction with, or as the primary surgical procedure.	(VSD) Defect of the ventricular septum is closed with/without patch.	Discharge summary Operative notes Operative report Physician progress notes
5240	OCarASD	Indicate whether the patient had an Atrial Septal Defect (ASD) Repair either in conjunction with or as the primary surgical procedure.	(ASD) Defect of the atrial septum is closed with/without patch. During normal development of the heart, there is an opening in the atrial septum. Normally, the opening closes before birth, but if it does not, the child is born with a hole between the left and right atria called patent foramen ovale (PFO). Other types of atrial septal defects occur, most commonly, secundum atrial septal defects, which account for about 70 percent of all ASDs and occur in the middle of the atrial septum. ASDs in the upper part of the atrial septum (called sinus venosus) where the superior vena cava and right atrium join and can involve the right upper pulmonary vein.	Discharge summary Operative notes Operative report Physician progress notes
5241	OCarASDTy	Indicate the type of Atrial Septal Defect	**Secundum** An ASD confined to the region of the fossa ovalis; its most common etiology is a deficiency of the septum primum, but deficiency of the limbus or septum secundum may also contribute. **Sinus Venosus** An ASD with a vena cava or pulmonary vein (or veins) that overrides the atrial septum or the superior interatrial fold (septum secundum) producing an interatrial or anomalous venoatrial communication. Although the term sinus venosus atrial septal defect is commonly used; the lesion is more properly termed a sinus venosus communication because, while it functions as an interatrial communication, this lesion is not a defect of the true atrial septum. **PFO (Patent Foramen Ovale)** Small interatrial communication in the region of the foramen ovale characterized by no deficiency of the septum primum and a normal limbus with no deficiency of the septum secundum.	Discharge summary Operative notes Operative report Physician progress notes

5290	OCarSVR	Indicate whether the patient had a Surgical Ventricular Restoration, either in conjunction with, or as the primary surgical procedure.	Surgical Ventricular Restorations (SVR) are procedures that restore the geometry (remodeling of the ventricle) of the heart after an anterior MI. They include the Dor procedure (named for a physician who authored many articles on the procedure) or the Surgical Anterior Ventricular Endocardial Restoration (SAVER) procedure. The SVR procedure is distinct from an anterior left ventricular aneurysm repair.	Discharge summary Operative notes Operative report Physician progress notes
5300	OCarCong	Indicate whether the patient had a congenital defect repair either in conjunction with or as the primary surgical procedure.	Repair of cardiac defect or anomaly of a congenital nature present since birth	Discharge summary Operative notes Operative report Physician progress notes
August 2013	The patient was found to have cor triatriatum in the OR, which was resected. How is this captured?		This is coded as other cardiac congenital; diagnosis 1, code 250.	
5310-5330	OCarCongDiag (1-3)	Select the three most significant congenital diagnoses.	A comprehensive list of procedures is available at: http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf	Consultations History & Physical Cath report Physician Progress notes
5340-5360	OCarCongProc (1-3)	Select the three most significant congenital procedures	A comprehensive list of procedures is available at: http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf	Discharge summary Operative notes Operative report Physician progress notes
5370	OCarLasr	Indicate whether the patient underwent the creation of multiple channels in the left ventricular myocardium with a laser fiber, either in conjunction with, or as the primary surgical procedure.	A laser is used to make small transmural perforations in the heart. These channels allow for blood to enter the myocardium directly from the ventricle chamber or through communications with the native coronary circulations. Used primarily in areas of the heart where bypass grafting is not feasible, to improve collateralization of circulation.	Discharge summary Laser record Operative notes Operative report Physician progress notes
5380	OCarTrma	Indicate whether the patient had a surgical procedure for an injury due to a Cardiac Trauma, either in conjunction with, or as the primary surgical procedure.	Injury to the heart such as a gunshot wound, stab wound, car accident or other trauma induced injury.	Discharge summary Operative notes Operative report Physician progress notes
Aug	Procedure: Redo Median Sternotomy, repair of stab		No, do not include case.	

2012	wound to the right ventricle. The CV surgeon was not called in and the patient was not on bypass. The trauma surgeon did the case and the pt. coded and died during the procedure. Should I code this case in the adult cardiac surgery database?			
Aug 2012	Patient with a gunshot wound came through the ER and then to surgery. Gunshot was to the chest/abdomen hit the lung, diaphragm. They repaired the pericardium. "Pericardium was repaired with a suture". Should this be in the database as other Cardiac or Other Non-cardiac?		Do not enter this case.	
5390	OCarCrTx	Indicate whether the patient had Heterotopic or Orthotopic heart transplantation, either in conjunction with, or as the primary surgical procedure.	Heterotopic Transplant – The transplant recipient's heart is not explanted. A donor's heart is implanted as a "piggy back" to the patient's native heart. The donor heart acts as an assist pump for the diseased heart. The patient now has two hearts. Orthotopic – The patient's diseased native heart is excised and replaced with a donor heart. The recipient heart is removed completely except for small cuff of right and left atrium.	Discharge summary Operative notes Operative report Physician progress notes
Aug 2012	My surgeon places an epicardial lead via a mini thoracotomy in the OR when the electrophysiologist cannot place it during the generator change. How do I pick up this procedure done by my surgeon? He did NOT do the generator change. I have to say arrhythmia correction surgery to open lead insertion but he did not implant the defibrillator or PPM. If I chose NONE it will not open up Seq # 5410.		Do not enter this case.	
5400	OCarACD Updated December 2013	Indicate if an arrhythmia correction device was surgically placed, ~~either~~ in conjunction with ~~or as~~ the primary surgical procedure.	An internal electronic generator that controls heart rate. These include pacemakers, implantable defibrillators or combination devices.	Discharge summary Operative notes Operative report Physician progress notes
5410	OCarACDLI	Indicate whether procedure included lead insertion or replacement for a device intended to treat cardiac arrhythmias.	These include pacemakers, implantable defibrillators or combination devices.	Discharge summary Operative notes Operative report Physician progress notes

5430	OCarACDLE	Indicate whether procedure included lead extraction for a device intended to treat cardiac arrhythmias.	These include pacemakers, implantable defibrillators or combination devices. Only capture lead extractions performed by a surgeon participating in the STS National Database. Do not capture if performed by a cardiologist.	Discharge summary Operative notes Operative report Physician progress notes
5450	OCarAFib	Indicate if an atrial fibrillation correction surgery was performed.	The intent of AFib surgeries is to preclude the atria from fibrillating by disrupting the abnormal reentry pathways of electronic signals that lead to atrial fibrillation.	Discharge summary Operative notes Operative report Physician progress notes
October 2011	Does the incision made in the atria to access the MV count as a cut and sew procedure for Afib?		No, the lesion creation for Afib procedures is specific to that procedure.	
October 2011	My surgeon oversews the left atrial appendage on all his surgeries. Do I count that as arrhythmia surgery even if there is no Afib?		Yes, the patient does not need to have AFib to have an AFib procedure done.	
5451	OCarAFibSurLoc	Indicate the location of the AFib ablation procedure.	Biatrial Left atrial only Right atrial only	Operative notes Operative report Physician progress notes
July 2011	Which do you choose for a box lesion for pulmonary vein isolation?		Left Atrial	
5452	OCarAFibSurLAA	Indicate whether left atrial appendage was obliterated. Includes over sewing, ligation, stapling, clipping, and/or plication.	Left atrial appendage obliteration is a treatment strategy to prevent blood clot formation in atrial fibrillation (AF). In this heart rhythm disorder, blood clots form in the left atrial appendage (LAA) in 90% of cases.	Operative notes Operative report Physician progress notes
5455	OCarAFibmethRad	Indicate whether the method used to create the lesion for the AFib ablation procedure included radio frequency.	Radiofrequency energy uses an alternating current resulting in thermal injury to disrupt AF pathways. These probes can be applied to either endocardial or epicardial heart surfaces to create transmural linear lesions that block atrial conduction.	Operative notes Operative report Physician progress notes
5456	OCarAFibMethUltra	Indicate whether the method used to create the lesion for the AFib ablation procedure included ultrasound.	Focused ultrasound can be used to deliver energy to atrial tissue which results in deep heating, coagulation necrosis, and conduction block.	Operative notes Operative report Physician progress notes

5457	OCarAFibMethCryo	Indicate whether the method used to create the lesion for the AFib ablation procedure included cryo.	Cryoablation is performed with a nitrous oxide cooled probe that when applied to atrial tissue, produces transmural lesions that block atrial conduction.	Operative notes Operative report Physician progress notes
5458	OCarAFibMethMicro	Indicate whether the method used to create the lesion for the AFib ablation procedure included microwave.	Microwave ablation makes use of high-frequency electromagnetic radiation, which upon application to atrial tissue causes oscillation of water molecules, converting electromagnetic energy into kinetic energy and producing heat. This heat causes thermal injury leading to conduction block.	Operative notes Operative report Physician progress notes
5459	OCarAFibMethLas	Indicate whether the method used to create the lesion for the AFib ablation procedure included laser.	Laser light energy produces linear myocardial lesions leading to conduction block.	Operative notes Operative report Physician progress notes
5460	OCarAFibMethCAS	Indicate whether the method used to create the lesion for the AFib ablation procedure included cut-and-sew.	Surgical incisions are made in the heart tissue with a scalpel and repaired with suture. The resulting scar tissue leads to conduction block.	Operative notes Operative report Physician progress notes
5465	OCarAFibAProc	Indicate what atrial fibrillation ablation procedure was performed.	Primarily epicardial (on the outside surface of the heart)procedure e.g., pulmonary vein isolation with or without connection to left atrial appendage. Primarily intracardiac (inside the heart) e.g., Maze procedures; lesions to mitral annulus; etc. The intracardiac procedure carries a higher risk and when done in conjunction with CABG surgery would remove the patient from analysis as an “Isolated CABG”.	Operative notes Operative report Physician progress notes
5471	OCAoProcType	Indicate the type of aortic procedure performed in conjunction with another procedure or as the primary procedure.	None Aneurysm Dissection (including intramural hematoma) Trauma Coarctation Other	Operative notes Operative report Physician progress notes
Aug 2012	Pt. had an aortic dissection from the carotid to the iliac system, involving the carotid, renal and mesenteric arteries. Dr. stated it was Type A, if I code Type A am I covering everything on this complex procedure? Do I code the repair of the femoral artery as Non-cardiac Procedure ‘Other’ or ‘Other Vascular’? The patient returned to the OR within 24 hours for a laparotomy to decompress the abdomen and fasciotomy of the lower extremity for compartment syndrome. Is compartment syndrome acute vascular limb ischemia?		Yes, code type A to cover all of this. Do not code ‘other’, it is part of the total repair. Yes, code vascular limb ischemia	

October 2011	The patient had an aortic aneurysm that dissected and I cannot choose both, which do I choose?		Code the issue that brought the patient to the OR. If dissection was noted during non-emergent aneurysm repair, code aneurysm. If the dissection is acute, code the dissection.	
Aug 2012	Patient with thoracic aneurysm had endovascular stent placed. Since aneurysm encroached upon subclavian artery, there wasn't a sufficient landing zone for the stent. Additional stenting of carotid needed because graft partially covered orifice. PROCEDURE PERFORMED: 1. Left carotid to subclavian artery bypass. 2. Thoracic endovascular repair of descending thoracic aortic aneurysm with Zenith TX2. 3. Stenting of proximal left common carotid artery into the aortic arch, forming a snorkel, with Viabahn covered stent 8 x 5 x 120.		Code this as Other Cardiac Procedure > Aneurysm > repair of descending aortic aneurysm; TEVAR, and Other non-cardiac procedure (other vascular)	
5473	ONCAoRt	Indicate if the patient underwent repair of an aortic root aneurysm either in conjunction with, or as the primary surgical procedure. Aneurysm refers to pathologic dilatation of the aorta.	The aortic root is the portion of the ascending aorta beginning at the aortic annulus and extending to the sinotubular junction, includes area between each commissure of the aortic valve and opposite the cusps of the aortic valve, three small dilatations called the aortic sinuses. The sinotubular junction is the point in the ascending aorta where the aortic sinuses end and the aorta becomes a tubular structure.	Operative notes Operative report Physician progress notes
5474	ONCAoGraft	Indicate whether a synthetic graft was used to replace the ascending aorta. (any synthetic graft, not just Dacron)	This includes the area between the sinotubular junction and the origin of the innominate artery. This also includes a “hemiarch” replacement, a Wheat procedure, valve-sparing root reimplantation and remodeling operations. If the ascending aorta was replaced with a Dacron or gel weave graft, record as “yes” and also go to AVR section and record device model, size, etc.	Operative notes Operative report Physician progress notes
5480	ONCAsc	Indicate if the patient underwent repair of ascending aortic aneurysm either in conjunction with, or as primary procedure.	Aneurysm refers to pathologic dilatation of the aorta. The ascending aorta begins at the aortic annulus and ends at the origin of the innominate artery where the aorta continues as the transverse arch.	Operative notes Operative report Physician progress notes
5490	ONCArch	Indicate if the patient underwent repair of aneurysm in the arch of the aorta either in conjunction with or as the primary surgical procedure.	The arch begins at the origin of the innominate artery and ends beneath the left subclavian artery. It is the portion of the aorta at the top of the heart that gives off three important blood vessels; the innominate artery, the left carotid artery and the left subclavian artery.	Operative notes Operative report Physician progress notes
5491	ONCArchRepExt	Indicate the extent of the arch repair.	Hemi-Arch Total Arch	Operative notes Operative report
5500	ONCDesc	Indicate if the patient underwent repair of a descending aortic aneurysm	The descending aorta is the portion of the aorta between the arch and the abdomen.	Discharge summary Operative notes Operative report

		either in conjunction with or as the primary surgical procedure.		Physician progress notes
5510	ONCThAbd	Indicate if the patient underwent repair of a thoracoabdominal aneurysm, either in conjunction with, or as the primary surgical procedure.	Thoracoabdominal aneurysms can involve the entire thoracoabdominal aorta from the origin of the left subclavian artery to the aortic bifurcation or can involve one or more segments of the abdominal aorta.	Discharge summary Operative notes Operative report Physician progress notes
5511	ONCThAbdGraft	Indicate whether a graft replacement was used.	Repair of thoracoabdominal aneurysms involves replacement of sections of the aorta with grafts.	Operative notes Operative report Physician progress notes
5512	ONCThAbdInterVes	Indicate whether intercostal vessels were re-implanted.	Repair of thoracoabdominal aneurysms involves replacement of the aorta in those segments where major arterial branches supply vital organs. Thus, very specialized techniques are required in order to protect those organs during repair, including distal aortic perfusion and intercostal artery reimplantation.	Operative notes Operative report Physician progress notes
5513	ONCThAbdLumCSF	Indicate whether lumbar CSF drainage was utilized.	Spinal cord ischemia remains one of the most feared complications associated with thoracoabdominal aneurysm repair. Recent advances in the understanding of the pathophysiology of this complication have made significant contributions to the current approach in the management of these lesions. In particular, spinal catheter drainage allows the intraspinal pressure to be reduced so that perfusion pressure during aortic cross clamping is maximized.	Operative notes Operative report Physician progress notes
5514	ONCThAbdExtent	Indicate extent of descending aorta replacement.	Proximal Mid Distal Proximal - Mid Proximal - Mid - Distal	Operative notes Operative report Physician progress notes
5516	AoDisAc	Indicate whether aortic dissection is acute (<14 days prior to procedure).	Aortic Dissection can be acute or chronic	Operative notes Operative report Physician progress notes
5517	AoDisTyp	Indicate aortic dissection type.	Stanford Type A Dissection extends proximal to the left subclavian artery Stanford Type B Dissection extends distal to the left subclavian artery (See appendix)	Operative notes Operative report Physician progress notes
5518	AoTrTyp	Indicate type of aortic trauma.	Blunt Penetrating	History & Physical Operative report
5520	EndoProc	Indicate whether an aortic endovascular stent graft was performed/deployed.	Reference: http://circ.ahajournals.org/cgi/content/full/117/17/2288	Operative notes Operative report Physician progress

				notes
Aug 2012	Procedure: Percutaneous thoracic aneurysm. Are people putting these in the database?		Yes, choose TEVAR	
October 2011	The patient had a carotid-subclavian bypass the day before an endovascular repair of the arch & thoracoabdominal aorta. How do I code this?		The endovascular procedure is the primary case to capture, the initial procedure is part of the TEVAR and does not get coded separately or as a previous CV intervention or cerebrovascular disease.	
5521	EndoProcDeb	Indicate whether debranching was performed.	Reference: http://findarticles.com/p/articles/mi_7453/is_200701/ai_n32215305/	Operative notes Operative report Physician progress notes
5530	OCTumor	Indicate whether the patient had resection of an intracardiac tumor.	Indicate whether the patient had resection of myxoma, fibroelastoma, hypernephroma, sarcoma, or other cardiac tumor. Do not include tumors that were limited to a valve.	Operative notes Operative report Physician progress notes
October 2011	How do you differentiate between a tumor on the valve and an intracardiac tumor?		Check with the surgeon.	
5540	OCPulThromDis	Indicate whether the patient had surgery for pulmonary thromboembolic disease.	embolectomy and endarterectomy	Operative notes Operative report Physician progress notes
October 2011	Is there a timeframe that differentiates acute and chronic thromboembolic disease?		Thromboembolectomy is usually performed for acute thromboembolic disease and thromboendarterectomy is performed for chronic disease.	
5550	OCarOthr	Indicate whether the patient had another cardiac procedure performed either in conjunction with, or as the primary surgical procedure that is not included within this section.	The following is a guideline for assessing which procedures to capture for Other Card - Other: Code procedures that have a high likelihood of negatively impacting a patient's outcome (survival, quality of life, ability to recover) and/or prolong the patient's length of stay. You do not want to code this if minor procedures were done in conjunction with a CABG or a Valve and lose the patient in the analysis of Isolated procedures! Due to the difficulty of publishing a complete list of procedures to include and not to include in this field, the STS encourages sites to submit the procedure in question as a clinical question. Whether to include or not to include a procedure will be dealt with on a procedure by procedure basis.	Discharge summary Operative notes Operative report Physician progress notes
October 2013	A patient was had a redo sternotomy with insertion of right atrial tunnel catheter for dialysis. Should this be included?		***Yes, code other cardiac other.***	
August 2013	How do you code the insertion of a bare metal stent when the left main is obstructed by the Sapien TAVI?		Code other cardiac other.	

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August 2013	Do we include lipoaspiration/stem cell harvest and mini-thoracotomy with intramyocardial stem cell transplant?	Code as other cardiac other. (This will be added in the data specification upgrade.)
August 2013	The patient had an emergency ascending aorta to left common caroid bypass and removal of foreign bodies (arterial stent and arterial filter) from the aortic arch and proximal left common carotid artery. How is this coded?	This should be coded as other cardiac other.
Aug 2012	Our surgeon performed a left thoracotomy and epicardial lead placement for a pre -existing ICD. Does this get entered into the database? If so, how is it coded - as a Cardiac "Other" Procedure?	Do not enter this case.

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N. OTHER NON- CARDIAC PROCEDURES **This section is intended to capture other non cardiac procedures.**				
SeqNo	**ShortName**	**Data Field Intent**	**Field Name Clarification**	**Source Document**
5560	ONCCarEn	Indicate whether the patient underwent surgical removal of stenotic atheromatous plaque or percutaneous/surgical placement of stent in conjunction with the primary surgical procedure.	Right and or left carotid arteries are branches of the arch of the aorta that transverse the neck and supply blood flow to the brain.. Example: If a carotid endarterectomy is done in the same OR session as a CABG, code the procedure as a CABG+ Carotid Endarterectomy (CABG + Other Non-Cardiac-Carotid Endarterectomy).	Operative notes Operative report Physician progress notes
5570	ONCOVasc	Indicate whether the patient had procedures treating peripheral vascular disease in conjunction with the primary surgical procedure.	May include bypass of superior vena cava syndrome, renal artery bypass, or lower extremity bypass.	Operative notes Operative report Physician progress notes
Aug 2012	Would a plication of pulmonary artery aneurysm be considered Other Non-Cardiac: Other Vascular?		No, code this as Other, Cardiac, Other which includes the heart and great vessels.	
Aug 2012	During a CAB they did a percutaneous insertion of a left femoral intraaortic balloon pump and repair of the (previous) right femoral artery intraaortic balloon pump site. The previous IABP was removed three days prior to OR. Is this a non-cardiac procedure/other vascular 5580? Is this coded as an unplanned procedure 2501?		No, capture this as an isolated CAB with IABP insertion.	
5580	ONCOThor	Indicate whether the patient underwent procedures involving Thorax/Pleura in conjunction with the primary surgical procedure.	This includes, but is not limited to, open lung biopsy, lung resection, mediastinal mass and/or lung dissection.	Operative notes Operative report Physician progress notes
5590	ONCOther	Indicate whether the patient had any other non-cardiac procedure performed in conjunction with the primary surgical procedure that is not included within this section.	The goal is to keep as many procedures as possible in the “isolated” category. Only code “yes” for procedures that high likelihood of negatively impacting a patient's outcome (survival, quality of life, ability to recover) and/or prolong the patient's length of stay. Example # 1: A surgeon performs an open reduction internally fixation of the sternum with sternal plating: Do not code as Other Non-Cardiac Other-this should be coded as an isolated CAB. Example # 2: An apical aortic conduit should not be coded as Other Non-Cardiac Other-this should be coded as Other Cardiac Other.	Operative notes Operative report Physician progress notes

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December 2013	How do you code the procedure when the valve is attached from the ventricle to the descending thoracic aorta?	Ascending aortic conduit is coded in sequence number 4280, it is no longer captured in other cardiac other in sequence number 5590.

O. POST OPERATIVE

This section is intended to capture post operative data. Clearly, not all lab or diagnostic studies are expected to be done on all post op patients. The intent is to capture lab results or test results that were performed.

SeqNo	ShortName	Data Field Intent	Field Name Clarification	Source Document
5610	PostCreat	Indicate the postoperative Creatinine level. If more than one level is obtained, code the highest level.	The post operative creatinine will be used to evaluate renal function according to the RIFLE criteria. The Acute Dialysis Quality Initiative, a multidisciplinary collaboration, defined a range of acute renal dysfunction called the RIFLE classification system. It is used to define grades of severity based on objective measurements. **STS will use the underlined serum creatinine values to analyze post op renal function. GFR and urine output will not be included at this time. Renal Failure criteria are highlighted. Classifications of Loss and End-stage disease are beyond the current scope of follow-up.** **Risk (R)** - Increase in serum creatinine level X 1.5 or decrease in GFR by 25%, or UO <0.5 mL/kg/h for 6 hours **Injury (I)** - Increase in serum creatinine level X 2.0 or decrease in GFR by 50%, or UO <0.5 mL/kg/h for 12 hours **Failure (F)** - Increase in serum creatinine level X 3.0, or serum creatinine level ≥4 mg/dL , acute rise must be at least 0.5 mg/dl or decrease in GFR by 75%,; UO <0.3 mL/kg/h for 24 hours, or anuria for 12 hours **Loss (L)** - Persistent ARF, complete loss of kidney function >4 weeks **End-stage kidney disease (E)** - Loss of kidney function >3 months Reference: http://ccforum.com/content/8/4/R204	Laboratory reports Physician progress notes
5620	BldProd	Indicate whether blood products were transfused anytime postoperatively. Postoperatively is defined as any blood started after the initial surgery. All blood transfused after the initial surgery, including any blood transfused during a reoperative surgery should be included..	To track postoperative blood utilization. Blood products refer to FFP, RBC, Cryo, Platelets, and Whole Blood. Do NOT include: • Pre-donated blood • Cell saver blood • Pump residual blood • Chest tube re-circulated blood Example: A patient is admitted for hip replacement after a fall and is found to have had an MI and requires a CAB prior to the hip surgery: Count all the blood products the patient receives during and following the CAB, up until the hip surgery.	Blood transfusion sheet Critical care notes Laboratory reports
5630	BdRBCU	Indicate the number of units of packed red blood cells that were transfused any time postoperatively.	To track postoperative blood utilization. Note: Do not include autologous, cell-saver or chest tube recirculated blood.	Blood transfusion sheet Critical care notes Laboratory reports

5640	BdFFPU	Indicate the number of units of fresh frozen plasma that were transfused any time postoperatively.	To track postoperative blood product utilization.	Blood transfusion sheet Critical care notes Laboratory reports
5650	BdCryoU	Indicate the number of units of cryoprecipitate that were transfused any time postoperatively.	To track postoperative blood product utilization. One bag of cryo = one unit. The number of units is not volume dependent.	Blood transfusion sheet Critical care notes Laboratory reports
5660	BdPlatU	Indicate the number of units of platelets that were transfused any time postoperatively.	To track postoperative blood product utilization. Single Donor Platelets (SDP) or Platelet phoresis: Count as one unit. One unit is comprised of platelets derived from a single donor. The number of units coded is not volume dependant. Pooled platelets or dose packs are counted as one unit.	Blood transfusion sheet Critical care notes Laboratory reports
5670	ExtubOR	Indicate whether the patient was extubated prior to leaving the OR during the initial surgery.	Code “Yes” if the patient is extubated in the OR during the initial surgery.	Anesthesia report Critical care notes Operative report
5680	ReIntub	Indicate whether the patient was re-intubated during the hospital stay after the initial extubation. This may include patients who have been extubated in the OR and require intubation in the postoperative period.	Example # 1: OR to ICU-patient intubated. ICU patient extubated, back to OR-intubated and extubated in OR: Do not count the OR Reop intubation as a re-intubation. Example # 2: OR to ICU-patient intubated. ICU patient extubated, back to OR-intubated, back to ICU remains intubated: Reintubated during hospital stay = “Yes”. Example # 3: A patient self-extubates but is immediately intubated: Do not code as re-intubated during hospital stay.	Critical care notes Respiratory care notes Ventilator flow sheet
5690	VentHrsA	Indicate how many additional hours the patient was on the ventilator after initial extubation.	Ventilator hours are calculated with a decimal point so that minutes can be included. Examples: 0.1 = 6 minutes 0.25 = 15 minutes 0.5 = 30 minutes 0.75 = 45 minutes etc.	Critical care notes Respiratory care notes Ventilator flow sheet
5700	ICUVisit	Indicate whether the patient received ICU level of care immediately following the initial surgery. Include ICU unit, and other similar critical care environments.	Indicate whether the patient received ICU level of care immediately following the initial surgery. Include ICU unit and other similar critical care environments. Do not include PACU if only used for Phase I recovery, do include PACU if used as a critical care unit when ICU bed not available.	Critical care notes

5710	ICUInHrs	Indicate the number of hours the patient received ICU level of care immediately following the initial surgery until the time of physical transfer out of ICU. Include ICU unit, and other similar critical care environments.	For those sites with single stay units (admission to ICU to hospital discharge), document the number of hours immediately following the initial surgery until a physician order is written to change 5710the level of care provided. ICU hours begin when the patient arrives in the ICU or your institutions equivalent to an ICU and end when they leave.	Critical care notes
July 2013	The patient is pronounced dead on 3/13/2013 but is not discharged until 3/16/2013 when One Legacy comes to harvest organs. How do you code discharge date, ICU hours and mortality date?		Use the date and time on the death certificate (when the patient was pronounced dead).	
July 2011	The data specifications state: "Do not count hours when the patient is kept in ICU due to staffing or bed availability." DISREGARD THIS STATEMENT, THE ONLY WAY TO OBJECTIVELY COUNT ICU TIME IS TO COUNT THE ACTUAL TIME THE PATIENT LEAVES THE ICU.			
5720	ICUReadm	Indicate whether the patient spent time in an ICU after having been transferred to a step-down unit (lower level care).	Specific situations are described below: OR - > ICU - > OR - > ICU = No OR - > ICU - > STEP DOWN - > ICU = Yes OR - > STEP DOWN - > ICU = Yes Single care unit (universal bed): Code ICU readmission when the level of care increases and is noted in the physician order.	Critical care notes
5730	ICUAdHrs	Indicate the number of additional hours spent in the ICU, or at the equivalent higher level of care in single stay units.	ICU hours begin when the patient arrives in the ICU or your institutions equivalent to an ICU and end when they leave.	Critical care notes
5744	POpTTEch	Indicate whether an echo was performed postoperatively prior to discharge.	Capture echo exams performed after the patient leaves the operating room but prior to hospital discharge.	Echo Results Physician Progress notes
October 2011	What do I put if a valve is not mentioned in the echo report?		If the report for an echo does not address valve disease, mark none for insufficiency.	
October 2011	If I have multiple echo studies and EKGs post op, which do I code?		Code the exams closest to discharge.	
5745	POpTTAR	Indicate the highest level of aortic insufficiency found on a post operative echo.	Capture echo exams performed after the patient leaves the operating room but prior to hospital discharge. If AI is reported as moderate to severe, choose severe.	Echo Results Physician Progress notes
5746	POpTTMR	Indicate the highest level of mitral insufficiency (Mitral Regurg) found on a post operative echo.	Capture echo exams performed after the patient leaves the operating room but prior to hospital discharge. If MI/MR is reported as moderate to severe, choose severe.	Echo Results Physician Progress notes

5747	POpTTTR	Indicate the highest level of tricuspid insufficiency found on a post operative echo.	Capture echo exams performed after the patient leaves the operating room but prior to hospital discharge. If TI is reported as moderate to severe, choose severe.	Echo Results Physician Progress notes
5748	POpEFD	Indicate whether an ejection fraction, determined by any method is reported postoperatively.	Not all patients are expected to have post operative EF performed.	Echo Results Cath results Radiology report Physician Progress notes
5749	POpEF	Enter the Ejection fraction %.	Enter a 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%). The following guideline is to be used when the EF is not documented as a percentage; but rather, the EF is documented using a word descriptor: Normal = 60% Good function = 50% Mildly reduced = 45% Fair function = 40% Moderately reduced = 30% Poor function = 25% Severely reduced = 20% Note: If no diagnostic procedural report specifying an EF is in the medical record, a value documented in the progress record is acceptable.	Echo Results Cath results Radiology report Physician Progress notes
5750	POpEnzDrawn	Indicate whether post operative Cardiac Enzymes (biomarkers) were drawn.	Capture enzymes that were drawn after surgery, prior to discharge. This does not imply that enzymes should be drawn on all patients; the intent is to capture the values if they were drawn.	Lab results Physician Progress Notes
5751	POpPKCKMB	Capture the highest (peak) CKMB level post op.	CKMB is the fraction of the enzyme directly related to myocardial tissue.	Lab results Physician Progress Notes
5752	POpPkTrI	Capture the highest (peak) Troponin I level post op.	Troponin I is a very sensitive and specific indicator of damage to the heart muscle (myocardium). It is used in conjunction with other diagnostic criteria to diagnose myocardial infarction.	Lab results Physician Progress Notes
5753	POpPkTrT	Capture the highest (peak) Troponin T level post op.	Troponin T is a very sensitive and specific indicator of damage to the heart muscle (myocardium). It is used in conjunction with other diagnostic criteria to diagnose myocardial infarction.	Lab results Physician Progress Notes
5754	POpEKG	Indicate if a 12 lead EKG was performed post op whether or not there were significant changes.	This does not imply 12 leads are standard procedures for all post op patients. If more than one 12 lead EKG is done following surgery, capture the last one done prior to discharge. Choose: Not Done No significant changes from pre op EKG New Pathological Q Wave or LBBB, which can signify myocardial damage when evaluated in conjunction with other post op myocardial evaluation tools such cardiac enzymes and imaging.	EKG report Physician Progress Notes

Aug 2012	Should I leave this field blank on our transplants?		Yes, will address in next version	
October 2011	There was ST elevation and "consider infarct" but no Q wave or LBBB, how do I code this?		Leave this blank. It will be addressed in the next upgrade.	
6/11	What if the 12 lead shows new Afib or Heart Block?		This field is intended to assess the myocardium post op, not arrhythmias which are captured in 6270 and 6330. Answer No significant changes from pre op EKG here and capture rhythm change in appropriate field.	
5755	POpImagStdy	Indicate results of post op cardiac imaging studies, if performed.	This does not imply that post op imaging is expected to be performed on all patients; the intent is to capture results if an exam was performed. Studies may include echo, cardiac cath, CT, MRI. If more than one study is done following surgery, capture the last one done prior to discharge. Choose: Not performed Angiographic evidence of new thrombus or occlusion of graft or native coronary vessel Evidence of new loss of viable myocardium No evidence of new myocardial injury	Echo Results Cath results Radiology report Physician Progress notes

P. POST OPERATIVE EVENTS **This section is intended to capture events in the hospital, during the period following surgery until discharge, even if beyond thirty days.**				
5759	Complics	Indicate whether a postoperative event occurred during the hospitalization for surgery. This includes the entire postoperative period up to discharge, even if over 30 days.	The intent is to document those events/complications that: • Pose either a life threatening situation or create a potential long-term deficit • Require pharmacological, surgical or medical intervention to prevent further clinical deterioration • Increase length of stay and/or major resource utilization If the patient expires in the operative room, the complications section would not need to be completed. There would not have been a post operative period for the patient, therefore, no post operative complications. Code the Complications data fields "No".	Consultations Diagnostic test reports Discharge summary Laboratory reports Nursing notes Physician progress notes Radiology reports
5760	COpReBld	Indicate whether the patient was re explored for mediastinal bleeding with or without tamponade, **whether in the ICU, PACU or brought back to the OR.**	Do not capture reopening of the chest or situations of excessive bleeding that occur prior to the patient leaving the operating room at the time of the primary procedure. Tamponade is a situation which occurs when there is compression or restriction placed on the heart within the chest that creates hemodynamic instability or a hypoperfused state. Do not include medically (non-operatively) treated excessive post-operative bleeding/tamponade events. Include patients that return to an OR suite or equivalent OR environment (i.e., ICU setting) as identified by your institution, that require surgical re-intervention to investigate/correct bleeding with or without tamponade. Include only those interventions that pertain to the mediastinum or thoracic cavity. Please note that all other reop fields do require a return to an OR suite to capture as a complication.	Consultations Echocardiogram (Echo) report
5770	COpReBldTim	Indicate when the re exploration took place.	Acute- within 24 hours of the end of the case Late- More than 24 hours after the case ends Code exactly 24 hours as Acute	Operative report Physician progress notes Critical Care record
5780	COpReVlv	Indicate whether the patient returned to the operating room for prosthetic or native valve dysfunction.	Dysfunction may be structural and/or non-structural failure. Dysfunction may be of prosthesis, a progressive native disease process, or an acute event process that disrupts valve function and creates either clinical compromising insufficiency/regurgitation or valve orifice narrowing.	Operative report Physician progress notes Critical Care record
Aug. 2013	We had a Transfemoral TAVR case of a Sapien Valve. The patient later developed worsening of his perivalvular leak and was taken back to the Hybrid OR by our surgeon and cardiologist team for balloon valvuloplasty of his aortic valve; this only improved the severe leak to a moderate leak. Should this be coded as an Other Cardiac Reop or		Code reoperation for valvular dysfunction.	

	Reop for Valvular Dysfunction given it was only a BAV?			
5790	COpReGft	Indicate whether the patient returned to the operating room or the cath lab for intervention of coronary graft occlusion due to acute closure, thrombosis, technical or embolic origin.	Only capture surgical or cath lab interventions that occur during the hospitalization.	Operative report Physician progress notes Critical Care record Cath Report
July 2011	Previously, only returns to the OR were counted as reoperation. Are cath lab procedures for graft occlusion now counted?		Yes, If PCI was performed for graft occlusion due to thrombosis, acute closure, emboli or technical issues code yes to this field.	
5800	COpReOth	Indicate whether the patient returned to the operating room for other cardiac reasons.	Capture any other cardiac reasons for reoperation.	Operative report Physician progress notes Critical Care record
Aug 2012	The patient had cardiac arrest and returned to the OR for a re-exploration, cardiac massage, and cardioversion. There was no active hemorrhage present. Once pulse was restored the patient left the OR with open chest. Two days later he returned for delayed sternal closure. Do I code the delayed sternal closure if it wasn't after the initial surgery? How do I code the return to OR, re op other cardiac reason?		Do not code delayed sternal closure since it followed the re-exploration. Code re-op Other Cardiac reasons	
5810	COpReNon	Indicate whether the patient returned to the operating room for non-cardiac reasons.	Events captured here are not included in the reop measure of the composite score. Non-cardiac events include, but are not limited to, the specific definitional events as described in Section N. Code only those non-cardiac events that require a return to the surgical suite. This includes procedures requiring a return to the operating room, such as a tracheostomy, hematoma evacuation, etc. Capture stage 2 of TEVAR "elephant trunk" procedures here. These are planned staged procedure involving placement of a graft in the descending aorta and are not considered reop for cardiac reasons. This does not include procedures performed outside the operating room, such as GI lab for peg tubes, shunts for dialysis, etc. Due to practice pattern(s) determined by institutional culture or practice driven patterns, some sites may have included in this section cases and/or events that other sites may not. Capture those events that may pose a clinically or resource utilization impact on the patient AND necessitate a return to the OR. A patient who is scheduled for lower extremity vascular surgery requires a CAB prior to the scheduled vascular procedure:	Consultations Diagnostic test reports Discharge summary Operative report Physician progress notes

			Code "No"; this is a plan, not a complication. Coding it as a complication misrepresents the outcome of the surgery.	
August 2013	The patient required cycstoscopy prior to the start of the CAB procedure. Post operatively, the patient continued to have urologic issues and required supra-pubic catheterization at the beside. Is this coded as reop other non-cardiac?		This is not coded as a reoperation.	
July 2011	Removed delayed sternal closure from above field since it is captured below.			
5811	COpPlndDelay	Indicate whether the chest was left open with planned delayed sternal closure.	This allows capture of patients who have the chest left open with a planned delayed sternal closure.	Operative report Physician progress notes
October 2013	A patient whose sternum was closed at the time of the index procedure returns to the OR for bleeding. At the time of the second procedure the sternum is left open. Is this coded as delayed sterna closure?		***Yes, code delayed sternal closure and reop for bleeding.***	
5830	CSternal	Capture mechanical and infectious conditions involving sternotomy incision.	Indicate presence of a post operative sternotomy issue within 30 days of procedure. Any condition requiring operative intervention involving the sternotomy should be coded YES	Physician progress notes
5840	CSternalDehis	The code indicates sterile dehiscence (instability) of the sternal edges without evidence of infection but which requires surgical intervention. Skin and subcutaneous tissue may remain intact.	Wound dehiscence (sterile) is defined as separation of the layers of a surgical wound. This separation can either be superficial or deep and can include the sternum in the case of a median sternotomy incision. The code "Sternal instability (sterile)" should be used to record the complication when the superficial and deep layers of the incision remain intact but non-union of the sternal edges is present. Causes of wound dehiscence can include tissue ischemia, nutritional deficiencies, use of corticosteroids, vitamin C deficiency, and others. Wound dehiscence due to wound infection should be recorded as a wound infection.	Operative report Physician progress notes

The infection definitions below are based on current CDC definitions which can be found at:
http://www.cdc.gov/ncidod/dhqp/pdf/nnis/NosInfDefinitions.pdf
The Database is not designed to capture events beyond the 30 days if the patient was discharged; therefore the underlined portion of the following statement in CDC definitions exceeds the scope of the STS Database. "Infection occurs within 30 days after the operative procedure if no implant is left in place or within 1 year if implant is in place and the infection appears to be related to the operative procedure."

July 2011	Does this mean infections after discharge but within 30 days should be captured?	Yes, the CDC definition specifies within 30 days of the procedure, whether or not the patient was discharged. We will also continue to collect infections during hospitalization, even if patient remains hospitalized beyond 30 days.

5841	SurSInf	Indicate whether surgical site infection was diagnosed within 30 days of the procedure.	A surgical site infection is a documented infection of areas opened or manipulated during the procedure. It can involve tissue related to the primary or secondary surgical incision(s). It may be: **Superficial**- involving skin and subcutaneous tissue **Deep**- involving deep soft tissue layers such as fascia and muscle **Organ space infection**- involving body cavity, such as mediastinitis.	Physician progress notes Laboratory Results Consultations
5850	CSternalSupInf	Capture superficial surgical site infection involving the sternotomy incision.	A superficial surgical site infection (SSI) must meet the following criteria: Infection occurs within 30 days after the operative procedure **and** involves only skin and subcutaneous tissue of the incision **and** patient has at least 1 of the following: **a.** purulent drainage from the superficial incision **b.** organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision **c.** at least 1 of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat, **and** superficial incision is deliberately opened by surgeon and is culture positive or not cultured. A culture-negative finding does not meet this criterion. **d.** diagnosis of superficial incisional SSI by the surgeon or attending physician. Do not report a stitch abscess (minimal inflammation and discharge confined to the points of suture penetration) as an infection. If the incisional site infection involves or extends into the fascial and muscle layers, report as a deep incisional SSI. Cellulitis by itself does not meet the criteria for SSI. Classify infection that involves both superficial and deep incision sites as deep incisional SSI. Superficial incisional primary (SIP): a superficial incisional SSI that is identified in the primary incision in a patient who has had an operation with 1 or more incisions. The sternal incision is considered the primary incision in patients undergoing CABG who also have harvest site incisions. The Harvest site incisions are considered secondary incisions and will be captured in field 5940.	Physician progress notes Laboratory Results Consultations

5860	CIStDeep	Indicate whether the patient, within 30 days postoperatively had a deep sternal wound infection.	A deep incisional SSI (DIP or DIS) must meet the following criteria: Infection occurs within 30 days after the operative procedure **and** involves deep soft tissues (e.g., fascial and muscle layers) of the incision **and** patient has <u>at least 1</u> of the following: **a.** purulent drainage from the deep incision but not from the organ/space component of the surgical site **b.** a deep incision spontaneously dehisces or is deliberately opened by a surgeon and is culture-positive or not cultured when the patient has at least 1 of the following signs or symptoms: fever (>38°C), or localized pain or tenderness. A culture-negative finding does not meet this criterion. **c.** an abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination **d.** diagnosis of a deep incisional SSI by a surgeon or attending physician. Classify infection that involves both superficial and deep incision sites as deep incisional SSI. Classify infection that involves both deep and organ space (like mediastinitis) as organ space.	Consultations Laboratory culture reports Operative report Physician progress reports Readmission and/or 30 day follow-up process
July 2013	When a patient has mediastinitis, should deep sternal wound infection be coded or just mediastinitis?		Code mediastinitis if only the subcutaneous tissue is affected. This will allow you to capture opening the wound, packing, and wound VAC application. The patient who requires muscle flap or omental flap will be coded as mediastinitis AND deep sternal wound infection. Both mediastinitis and deep sternal wound infections negatively impact the composite scores.	
October 2011	What is the difference between deep sternal wound infection and mediastinitis?		Review CDC definitions and compare to documentation in the record, these have the same impact on the composite score.	
July 2011	The Data Specs have different criteria for DSWI than the training manual. Which is correct?		The CDC definition above is the correct definition to use for DSWI. Do not use the definition in the Data Specs.	

5870	CSternalMedia	Indicate whether the patient developed mediastinitis within 30 days of the surgical procedure.	Mediastinitis is considered an "organ /space" surgical site infection. The diagnosis of mediastinitis must meet the following criteria according to the CDC: Infection occurs within 30 days after the operative procedure **and** infection involves any part of the body, beyond the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure **and** patient has at least 1 of the following: **a.** purulent drainage from a drain that is placed through a stab wound into the organ/space **b.** organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space **c.** an abscess or other evidence of infection involving the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiologic examination **d.** diagnosis of mediastinitis, an organ/space SSI by a surgeon or attending physician. Sternal osteomyelitis should be classified as mediastinitis. Sternal instability that is not associated with a wound infection or mediastinitis is captured in 5840.	Consultations Laboratory culture reports Operative report Physician progress reports Readmission and/or 30 day follow-up process
October 2013	A patient with aortic dissection has TEVAR. Ten days later has fever with associated nausea and vomiting. Mediastinal hematoma is noted on CT and the patient is taken to the OR for suspected perforated esophagus. Mediastinal debridement for necrosis and esophagogastrectomy. It is documented that there is murky fluid that is cultured and positive for diptheroids. Is this coded as mediastinitis?		***Yes, there is no blame to be placed but the patient has mediastinitis following the TEVAR.***	
5880	CSternalMedia DtDiag	Indicate the date on which the mediastinitis was diagnosed.	Capture date of diagnosis of mediastinitis.	Consultations Lab culture reports Operative report Physician progress reports
5890	CSternalMediaSPOpen	Indicate whether the secondary procedure performed to treat the mediastinitis included leaving the incision open with packing/irrigation.	The intent is to capture treatment strategies employed to treat mediastinitis.	Operative report Physician progress reports

5900	CSternalMediaSPWVac	Indicate whether the secondary procedure performed to treat the mediastinitis included wound vac.	The intent is to capture treatment strategies employed to treat mediastinitis. Wound vac may also be called negative pressure wound therapy. A device is used to facilitate wound healing by converting an open wound to a closed wound. The application of negative pressure causes removal of excess fluids; increased blood flow and decreased bacterial colonization; granulation tissue formation; and wound closure.	Operative report Physician progress reports
5910	CSternalMediaSPMuscle	Indicate whether the secondary procedure performed to treat the mediastinitis included muscle flap.	The intent is to capture treatment strategies employed to treat mediastinitis. You have to code mediastinitis Yes to capture chest flaps. Remember that deep sternal wound infection and mediastinitis have the same impact on the composite csore.	Operative report Physician progress reports
5920	CSternalMediaSPOmental	Indicate whether the secondary procedure performed to treat the mediastinitis included omental flap.	The intent is to capture treatment strategies employed to treat mediastinitis.	Operative report Physician progress reports
5930	CIThor	Indicate whether the patient had an incisional infection involving a thoracotomy or parasternal site.	Include superficial and deep surgical site infections using CDC definitions above. Do not include stitch abscesses.	Consultations Laboratory culture reports Operative report Physician progress reports Readmission and/or 30-day follow-up process
5940	CILeg	Indicate whether the patient had a superficial or deep infection involving a conduit harvest or cannulation site.	Capture infections at the site of an endovascular harvest site or an open harvest site, arm or leg. Also capture infections of cannulation sites. These are considered secondary surgical site infections since they do not involve the primary surgical incision. Follow CDC criteria outlined above.	Consultations Laboratory culture reports Operative report Physician progress reports Readmission and/or 30-day follow-up process
5960	WndIntOpen	Indicate whether wound intervention required within 30 days following procedure for wounds other than the primary incision included leaving the incision open with packing/irrigation.	The intent is to capture treatment strategies employed to treat the secondary surgical site infection.	Operative report Physician progress reports

5970	WndIntWVac	Indicate whether wound intervention required within 30 days following procedure for wounds other than sternotomy included wound vac.	The intent is to capture treatment strategies employed to treat the secondary surgical site infection. This is not for sternotomy/thoracotomy. Wound vac may also be called negative pressure wound therapy. A device is used to facilitate wound healing by converting an open wound to a closed wound. The application of negative pressure causes removal of excess fluids; increased blood flow and decreased bacterial colonization; granulation tissue formation; and wound closure.	Operative report Physician progress reports
6010	CSepsis	Indicate whether sepsis was diagnosed within 30 days of surgery.	Sepsis is defined as evidence of serious infection accompanied by a deleterious systemic response. In the time period of the first 48 postoperative or post procedural hours, the diagnosis of sepsis requires the presence of a Systemic Inflammatory Response Syndrome (SIRS) resulting from **a proven infection** (such as bacteremia, fungemia or urinary tract infection). In the time period after the first 48 postoperative or post procedural hours, sepsis may be diagnosed by the presence of a SIRS resulting from suspected or proven infection. During the first 48 hours, a SIRS may result from the stress associated with surgery and/or cardiopulmonary bypass. Thus, the clinical criteria for sepsis during this time period should be more stringent. A systemic inflammatory response syndrome (SIRS) is present when at least two of the following criteria are present: hypo- or hyperthermia (>38.5°C or <36.0°C), tachycardia or bradycardia, tachypnea, leukocytosis or leukopenia, and thrombocytopenia.	Consultations Laboratory reports Medication list Physician progress notes
6020	CSepsisPBC	Indicate whether a recognized pathogen is cultured from 1 or more blood cultures and is not related to an infection at another site.	Staph epi is considered a skin contaminant and not a pathogen. Reference: http://www.cdc.gov/ncidod/eid/vol10no1/03-0407.htm	Lab Reports Physician Progress Reports
6030	CNStrokP	Indicate whether the patient has a permanent postoperative 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 or led to death.	Stroke occurs when the blood supply to part of the brain is suddenly interrupted or when a blood vessel in the brain bursts, spilling blood into the spaces surrounding brain cells. Brain cells die when they no longer receive oxygen and nutrients from the blood or there is sudden bleeding into or around the brain. The symptoms of a stroke include sudden numbness or weakness, especially on one side of the body; sudden confusion or trouble speaking or understanding speech; sudden trouble seeing in one or both eyes; sudden trouble with walking, dizziness, or loss of balance or coordination; or sudden severe headache with no known cause. There are two forms of stroke: *ischemic* - blockage of a blood vessel supplying the brain, and *hemorrhagic* - bleeding into or around the brain. Central events are caused by embolic or hemorrhagic events. Neurological deficits such as confusion, delirium and/or encephalopatic (anoxic or metabolic) events are not to be coded in this field. Example # 1: A patient had a Coronary Artery Bypass (CAB) and Carotid Artery Endarterectomy (CEA) done by a cardiac surgeon and a vascular	Consultations Physician progress reports Radiology reports (i.e. MRI, CT scan)

			surgeon. The patient had a stroke, and it was documented in the notes that it was from the CEA. The stroke is coded as a post operative complication of the CAB. Example # 2: The patient was being sedated, but stopped withdrawing to painful stimuli on one side. A neuro consult suggested a CVA on the left side and ordered a CT Scan. The patient expired later on the same day as the consult before the test could be performed to determine if a CVA has occurred. This neurologic deficit would be coded as Stroke Permanent. **Reference:** http://www.ninds.nih.gov/disorders/stroke/stroke.htm	
6040	CNStrokTTIA	Indicate whether the patient had a postoperative Transient Ischemic Attack (TIA): Loss of neurological function that was abrupt in onset but with complete return of function within 24 hours.	A transient ischemic attack (TIA) is a transient stroke that lasts only a few minutes. It occurs when the blood supply to part of the brain is briefly interrupted. TIA symptoms, which usually occur suddenly, are similar to those of stroke but do not last as long. Most symptoms of a TIA disappear within an hour, although they may persist for up to 24 hours. Symptoms can include: numbness or weakness in the face, arm, or leg, especially on one side of the body; confusion or difficulty in talking or understanding speech; trouble seeing in one or both eyes; and difficulty with walking, dizziness, or loss of balance and coordination. Patients who have suffered a TIA have an increased risk of peripheral and coronary artery atherosclerosis, and an increased risk of subsequent heart attack and stroke. **Reference:** http://www.ninds.nih.gov/disorders/stroke/stroke.htm	Consultations Physician progress reports Radiology reports (i.e. MRI, CT scan)
6070	CNComaEnceph	Indicate whether the patient developed a postoperative coma and/or encephalopathy. Choices are: None Anoxic- caused by global lack of oxygen to brain Embolic- localized blockage of blood flow due to clot air or debris Metabolic- disturbance of neurochemistry of the brain Intracranial Bleeding Other	A coma, sometimes also called persistent vegetative state, is a profound or deep state of unconsciousness. Persistent vegetative state is not brain-death. An individual in a state of coma is alive but unable to move or respond to his or her environment. Encephalopathy is a term for any diffuse disease of the brain that alters brain function or structure. Encephalopathy may be caused by infectious agent (bacteria, virus, or prion), metabolic or mitochondrial dysfunction, brain tumor or increased pressure in the skull, prolonged exposure to toxic elements (including solvents, drugs, radiation, paints, industrial chemicals, and certain metals), chronic progressive trauma, poor nutrition, or lack of oxygen or blood flow to the brain. The hallmark of encephalopathy is an altered mental state. Depending on the type and severity of encephalopathy, common neurological symptoms are progressive loss of memory and cognitive ability, subtle personality changes, inability to concentrate, lethargy, and progressive loss of consciousness. Other neurological symptoms may include myoclonus (involuntary twitching of a muscle or group of muscles), nystagmus (rapid, involuntary eye movement), tremor, muscle atrophy and weakness, dementia, seizures,	Consultations Physician progress reports Radiology reports

			and loss of ability to swallow or speak. Blood tests, spinal fluid examination, imaging studies, electroencephalograms, and similar diagnostic studies may be used to differentiate the various causes of encephalopathy. If multiple causes, choose first event. **Reference:** http://www.ninds.nih.gov/disorders/stroke/stroke.htm	
6110	CNParal	Indicate whether the patient had a new postoperative paralysis or paraplegia. (Not related to stroke)	Paralysis is a loss of purposeful movement as a result of a neurological injury , drugs or toxins. Loss of motor function may be complete (paralysis) or partial (paresis); unilateral (hemiplegic) or bilateral confined to the lower extremities (paraplegic) or present in all four extremities (quadraplegic); accompanied by increased muscular tension and hyperactive reflexes (spastic) or by loss of reflexes (flaccid).	Consultations Physical therapy report Physician progress reports Radiology reports
October 2011	Do we code yes to paralysis if it is the result of a stroke as well as coding yes to stroke?		No, this is for paralysis related to the spinal cord.	
6120	CNParalTy	Indicate whether the new postoperative paralysis or paraplegia was transient or permanent	Transient is non-lasting and of short (< 24 hours) duration. Permanent is enduring, lasting, or without change for more than 24 hours.	Consultations Physician progress reports Radiology reports

6130	CPVntLng	Indicate whether the patient had prolonged mechanical ventilation > 24 hours. Include (but not limited to) causes such as Adult Respiratory Distress Syndrome (ARDS), or pulmonary edema.	To calculate total hours, include initial and additional hours of mechanical ventilation. Extended ventilation may include, but is not limited to, the specific definitional reasons. Example: If a major stroke or coma occurred that required ventilation for life support, code as prolonged if greater than 24 hours. Do not include the hours ventilated if a patient returns to the operating room suite and requires re-intubation as part of general anesthesia. Example # 1: A patient is ventilated prior to cardiac surgery: Do not code as a complication unless the hours ventilated post-op are > 24 hours. Example # 2: A patient has been long-term ventilator dependent PRIOR to his CABG. Six months prior to the current hospitalization, the patient suffered multiple complications, including a tracheostomy, from disease processes and non-cardiac surgery: Due to the language in the definition (...any patient requiring mechanical ventilation > 24 hours postoperatively) and for consistent coding, you will need to code the prolonged ventilation field for this patient as "Yes." Hopefully, the acuity of this patient will be captured in the co-morbidities/risk factors. Example # 3: A patient is extubated five hours after surgery and reintubated during the same hospital stay for an additional 20 hours. Count a total of 24 hours, including initial and additional hours of mechanical ventilation. For this example code “Yes” to Prolonged Ventilation.	Consultations Critical care notes ICU hemodynamic flow sheets or records Nursing notes Respiratory therapy flow sheets
6150	CPPneum	Indicate whether the patient had Pneumonia diagnosed by any of the following: positive cultures of sputum, transtracheal fluid, bronchial washings, and/or clinical findings consistent with the diagnosis of pneumonia (which may include chest x-ray diagnostic of pulmonary infiltrates).	Diagnosis of pneumonia may be determined by multiple diagnostic tools, as listed in the definition manual. Diagnosis may also be determined solely on chest x-ray reports. Treatment therapies may be as minimal as increased or added inhalation therapies or reintubation and antibiotics. Positive cultures are not necessary if there are clinical findings consistent with the diagnosis of pneumonia. Please keep in mind that atelectasis and effusions do not necessarily indicate pneumonia. Pneumonia is most often diagnosed by chest x-ray. Make sure that pneumonia is documented in the medical record.	Consultations Laboratory culture reports Physician progress reports Radiology reports (i.e. chest x-ray, scans)
Aug 2012	Patient presented with an MI and culprit vessel was stented. Surgery was scheduled but delayed due to pneumonia. Sputum cultures obtained during surgery were positive and organism was treated with appropriate antibiotics post op. Is this post op pneumonia?		No, do not code as a post op event, this pneumonia was pre-existing.	

6160	CVTE	Indicate whether the patient developed postoperative venous thrombosis or thromboembolic event.	A clot within a blood vessel is called a thrombus and the process by which it forms is known as thrombosis. It can be damaging as it might block the flow of blood. Also, part of the clot could embolize or break off and block a blood vessel further along, cutting off the blood supply to important organs. Post-operative patients are at risk of forming clots in the lower extremities that could lead to pulmonary embolism.	Diagnostic testing Radiology reports Venous ultrasound V/Q scan, pulmonary angiograms or spiral CT)
6170	PulmEmb	Indicate whether the patient had a pulmonary thromboembolism diagnosed by radiologic study such as V/Q scan, angiogram, or spiral CT.	Pulmonary embolism is a life threatening clot formation in one or more pulmonary arteries causing partial or complete obstruct of blood flow to the lung(s). Pulmonary embolisms must be documented through diagnostic testing.	Diagnostic testing Radiology reports (V/Q scan, pulmonary angiograms or spiral CT)
6180	DVT	Indicate whether patient had thrombosis (clot formation) in a deep vein.	Deep vein thrombosis (DVT) is the formation of a blood clot in the deep veins within the body, such as in the leg or pelvis. This kind of thrombosis can occur after surgery and may cause redness, pain and swelling.	Diagnostic Tests Venous ultrasound Physician Progress Notes
6190	CPlEff	Indicate whether a postoperative pleural effusion required drainage via thoracentesis or chest tube insertion.	Postoperative effusions are common and can often be treated medically. This field is intended to capture patients with effusions requiring an intervention, such as a chest tube or thoracentesis or pleural tap.	Physician Progress Notes Procedure notes
6200	CRenFail	Indicate whether the patient had acute or worsening renal failure based on the RIFLE criteria. **If the patient meets renal failure criteria or is on dialysis pre-op, do not code it as a post op event** READ CAREFULLY! THIS IS NEW! The National Quality Forum, NQF, requires use of a national standard for renal failure evaluation. This was communicated to STS after the specs were finalized.	The Acute Dialysis Quality Initiative, a multidisciplinary collaboration, defined a range of acute renal dysfunction called the RIFLE classification system. It is used to define grades of severity based on objective measurements. **STS will use the underlined values to analyze post op renal function.** **Classifications of Loss and End-stage disease are beyond the current scope of follow-up. Code yes if the patient meets the highlighted RIFLE Failure criteria or if dialysis was newly required post op.** **Risk (R)** - Increase in serum creatinine level X 1.5 or decrease in GFR by 25%, or UO <0.5 mL/kg/h for 6 hours **Injury (I)** - Increase in serum creatinine level X 2.0 or decrease in GFR by 50%, or UO <0.5 mL/kg/h for 12 hours **Failure (F)** - Increase in serum creatinine level X 3.0, or serum creatinine level ≥4 mg/dL with at least a 0.5 mg/dl rise , or decrease in GFR by 75%; UO <0.3 mL/kg/h for 24 hours, or anuria for 12 hours **Loss (L)** - Persistent ARF, complete loss of kidney function > 4 weeks **End-stage kidney disease (E)** - Loss of kidney function >3 months	Consultations Critical care notes Laboratory reports Physician progress reports Renal dialysis record
Aug 2012	If the patient had a creatinine ≥4 pre op and was on dialysis, do you code renal failure as a post op event, knowing that it will be excluded at DCRI.		Do not code this as a post op event because it existed pre-op.	

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April 2012	If a patient had a preop creatinine of 2.5 but was on dialysis pre-op and has a post-operative creatinine >4, do you code yes to renal failure?		No, the patient had preop, dialysis dependent renal failure. Fluctuations in creatinine are expected based on dialysis timing and do not represent a new post op issue.	
March 2012	If the patient met the RIFLE criteria for failure pre-op, example creatinine 4.0, but was not on dialysis and had to be started on dialysis post op does it count as new onset renal failure?		Yes, the patient has new post op dialysis indicating deterioration in function.	
July 2011	If the patient requires ultrafiltration, but the creatinine never reaches 3x baseline, is that renal failure?		No, review RIFLE criteria above.	
July 2011	Preop creatinine was 1.86 and post op was 3.72. Is this considered renal failure?		No, Renal Failure would be 3x 1.86, which is 5.58. Review RIFLE criteria above.	
October 2011	If the preop creatinine is 3.8 and post op peaks at 4.1, do I code renal failure?		No, the creatinine did not rise by 0.5 or more even though it exceeded 4.0	
6210	CRenDial	Indicate whether the patient had a new requirement for dialysis postoperatively, which may include hemodialysis or peritoneal dialysis.	May include either hemo or peritoneal dialysis. This includes a onetime need for dialysis as well as implementation of longer term therapy. If the patient was on preoperative peritoneal dialysis and moved to hemodialysis postoperatively, this does not constitute a worsening of the condition and should not be coded as an event. Continuous Veno-Venous Hemofiltration) (CVVH, CVVH-D) and Continuous Renal Replacement Therapy (CRRT) should be coded here as "Yes." (Code Ultra filtration as "No", it is captured in a separate field)	Consultations Physician progress reports
6220	DialDur	Indicate whether dialysis was required after hospital discharge.	The intent is to separate patients with possible long term dialysis from those that recovered kidney function prior to discharge.	Physician Progress Notes Discharge Summary Discharge Plan
6230	CUltraFil	Indicate whether patient required Ultra filtration.	Ultrafiltration is for fluid overload and is not counted as dialysis. Continuous Veno-Venous Hemofiltration) (CVVH, CVVH-D) and Continuous Renal Replacement Therapy (CRRT) should be coded here as "No", they are considered dialysis.	Physician Progress Notes ICU notes
6240	CVallFem	Indicate whether the patient had a dissection occurring in the iliac or femoral arteries.	The origin of the event may have been at the site of a preoperative catheterization insertion site, but the dissection occurred post-operatively.	Consultations Operative report Physician progress notes
6250	CVaLbIsc	Indicate whether the patient had any complication producing limb ischemia. This may include upper or lower limb ischemia.	Ischemic events are restricted to the arterial system. These do not include venous system events, i.e. DVT (deep vein thrombosis). Example: A patient had an IABP removed and emboli resulted in a necrotic great toe: Code "Yes" for acute limb ischemia.	Consultations Physician Progress notes Radiology reports (i.e. angiogram)

6270	~~COtHtBlk~~ CRhythmDIS	Indicate whether patient developed a new dysrhythmia requiring insertion of a permanent device.	Include permanent pacemakers, Implantable cardioverter defibrillators (ICD) and combination devices. Do not code if the patient experiences third degree block and has temporary pacemaker wires inserted, but the block resolves and the patient does not require a permanent pacemaker.	Cardiac cath report Consultations ECG/EKG Physician progress notes
6280	COtArrst	Indicate whether the patient had an acute cardiac arrest during the post operative period.	The cardiac arrest may be precipitated by ventricular fibrillation/tach or asystole and pulseless electrical activity (PEA). Code yes for sudden events requiring CPR. It is expected that all deaths inevitably have cardiac arrest, but this field is to capture those events that are sudden or acute in occurrence. Example # 1: A patient has a Do Not Resuscitate (DNR) status and is expected to arrest and then expire: This field is to capture those events that are sudden or acute in occurrence. Based on this, do not capture an arrest on a DNR patient. Example # 2: A patient had runs of NSVT which required EP study, resulting in inducible ventricular fibrillation, which then required AICD placement: The intent of this field is to capture those events that are sudden or acute in occurrence. Based on this language, do not capture ventricular fibrillation that is induced in a controlled environment resulting in AICD placement.	Cardiac arrest (Code 99 or Dr. Blue) reports Consultations ECG/EKG Physician progress notes
6290	COtCoag	Indicate whether the patient had bleeding, hemorrhage, and/or embolic events related to anticoagulant therapy postoperatively. This may include patients who experience Disseminated Intravascular Coagulopathy (DIC) or Heparin Induced Thrombocytopenia (HIT).	The intent of the field is to capture those patients that bleed, hemorrhage and /or suffer an embolic event related to anticoagulant therapy received post-op. Abnormal coag lab tests without clinical events are not included. Patients with DIC or HIT are included. Patients with bleeding secondarily to surgical suture 'leaking' or general surgical 'oozing' are not to be included. HIT (Heparin Induced Thrombocytopenia) is diagnosed with Heparin Assay and or D-Dimer laboratory tests only and are more than post-pump excessive bleeding or lower platelet counts. The physiological effects of CPB can be to reduce post-operative platelet counts as much as 50% within 24 hours. Anticoagulation drugs-see anticoagulant table. Example # 1: A patient is on Heparin and has a significantly elevated PTT, and at the same time, drops their platelet count; then has a bleed resulting in a leg hematoma with Incision & Drainage. A Heparin Assay and D-Dimer are not performed: This is not an anticoagulation complication. Example # 2: A patient has diagnosis of HIT but does not experience bleeding, hemorrhage and/or embolic events along with the diagnosis: Code the anticoagulation complication with or without the bleeding, hemorrhage and/or embolic events.	Consultations Laboratory Reports Physician progress notes

6300	COtTamp	Indicate whether the patient had fluid in the pericardial space compromising cardiac filling, and requiring intervention other than returning to the operating room, such as pericardiocentesis. This should be documented by either: 1. Echo showing pericardial fluid and signs of tamponade such as right heart compromise. 2. Systemic hypotension due to pericardial fluid compromising cardiac function.	Tamponade, fluid accumulation between the myocardium and pericardium of the heart, inhibits filling of the heart and results in hemodynamic compromise. Severity of tamponade may dictate the degree of intervention (invasive or non-invasive, surgical or Pericardiocentesis). This field is for those events that DO NOT require return to the operating room for treatment.	Consultations Diagnostic tests Echo reports Physician progress notes Procedure reports
6310	COtGI	Indicate whether the patient had a postoperative occurrence of any GI event, including but not limited to: a. GI bleeding requiring transfusion b. Pancreatitis with abnormal amylase/lipase requiring nasogastric (NG) suction therapy c. Cholecystitis requiring cholecystectomy or drainage d. Mesenteric ischemia requiring exploration e. Other GI event (e.g., Clostridium difficile).	GI events may require medical management, observational management or surgical intervention to control. DO NOT include events such as prolonged nausea and/or vomiting with no other documented physiological cause. Refer to the specific list included within the definition. Example # 1: A patient has a placement of a Percutaneous Endoscopic Gastrostomy (PEG). Patients that receive PEG's are generally very sick patients that require long term nutritional support because of multiple postoperative complications and the inability to eat. If a PEG is placed in the stomach, it means that the stomach is working well enough to support the nutritional support that the PEG feedings are providing. Do not code a GI complication in this situation. Example # 2: A patient experiences a postoperative paralytic ileus that does not increase the length of stay and does not require invasive therapy. Do not code a GI complication. Example # 3: A patient has elevated liver enzymes postoperatively: A transient rise in the patient's liver enzymes does not represent a GI complication.	Consultations Diagnostic test reports Laboratory reports Physician progress notes Procedure reports
6320	COtMSF	Indicate whether the patient had two or more major organ systems suffer compromised function.	Major organ systems are neurological, renal, pulmonary, cardiac, vascular or systemic. Multisystem Organ Failure (MSOF) means multiple organ systems have failed and function cannot be recovered by mechanical and/or pharmacological means. End-stage means irreversible organ failure. Example # 1: A patient that continues to be sustained by dialysis does not have end stage renal disease, because they continue to live with mechanical assistance and represents a single organ system. Example # 2: A patient with prolonged ventilation time resulting in the patient's inability to be weaned, resulting in ventilator dependency is not end-stage respiratory, because they continue to live with mechanical assistance, and this is a single organ system.	Consultations Diagnostic tests Laboratory reports Physician progress notes Procedure reports

			Example # 3: A patient has renal failure/prolonged vent/pneumonia. One patient can have multiple complications. In the case of MSOF, the patient develops deterioration of one system, i.e. pulmonary, then another and then another.	
6330	COtAFib	Indicate whether the patient had ~~a new onset of~~ Atrial Fibrillation/Flutter (AF) requiring treatment. ~~Do not include recurrence of AF which was present preoperatively.~~	~~DO NOT include patients that had pre-operative atrial fibrillation (treated or non-treated). The event must be of new origin.~~ The intent of this field is to capture ~~new onset~~ A Fib that persists longer than one hour and/or requires treatment. ~~The intent of this field is to capture new onset~~ ~~A Fib that requires treatment and NOT to capture a reoccurrence of A Fib which was present pre-op.~~ Example # 1: A patient is on beta blockers post-op and is titrating each day to give higher doses. The second post-op day the patient has a two hour run of A Fib. During this run of AFib, the beta blocker is increased or an extra dose of beta blocker is given but no other drugs are given for this two hour period: If the patient did not have A Fib pre-op and this post-op A Fib is new in onset, of greater than one hour duration, and requiring treatment, it is considered a post-op A Fib event ~~complication~~ Example # 2: A patient is on a protocol preoperatively; the patient then goes in to atrial fibrillation (AF) post-operatively and the protocol is not adjusted: If the patient did not have a history of atrial fibrillation preoperatively and was in sinus rhythm and then develops AF postoperatively, this should be coded "Yes" as a post op event ~~a complication~~.	Consultations ECG/EKG Medication administration record Physician progress notes
May 2012	The atrial fib issue is unclear, how is this to be captured?		The goal of the STS National Database is to assess and improve outcomes for patients undergoing cardiothoracic surgery. In order to understand the impact of post-operative atrial fibrillation, it is imperative to capture the incidence accurately and completely. Code yes if a patient entered the OR in sinus rhythm (or a rhythm other than a fib) and developed AFib requiring treatment in the post-operative period. If the patient was in AFib entering the OR do not code post op AFib as an event. Pre-operative Afib, recent or remote, is captured in 1650, 1700 and 1701.	
October 2011	The AFib was treated within an hour, do I still code yes?		Code yes to Afib that required treatment regardless of the duration.	
6340	CVaAoDis	Indicate whether the patient had a dissection occurring in any portion of the aorta.	This includes ascending, arch, descending, thoracic or abdominal aorta. Aortic dissection is bleeding into or along the wall of the aorta. This does not include an aneurysmal event, unless it goes on to rupture or dissect.	Angiogram reports Physician progress notes Radiology reports (i.e. MRI, CT Scan)

6341	RecLarynNrvInj	Indicate whether patient has symptoms of recurrent laryngeal nerve injury, (e.g., hoarseness, difficulty speaking, etc.).	The recurrent laryngeal nerve controls movement of the larynx. The larynx contains the apparatus for voice production: the vocal cords, and the muscles and ligaments that move the vocal cords. It also controls the flow of air into the lungs. When the recurrent laryngeal nerve is damaged, the movements of the larynx are reduced. This causes voice weakness, hoarseness, or sometimes the complete loss of voice. The changes may be temporary or permanent.	Consultations Diagnostic reports Nursing notes Physician progress notes
6342	PhrenNrvInj	Indicate whether patient has symptoms of phrenic nerve injury, (e.g., immobility or elevation of the diaphragm, etc.)	Traumatic or thermal injury to the phrenic nerve can result in paralysis of the hemi diaphragm on the affected side, resulting in respiratory difficulty.	Consultations Diagnostic reports Nursing notes Physician progress notes Radiology report
6350	COtOther	Indicate whether a postoperative event occurred that is not identified in the categories above, yet impacts hospital length of stay and/or outcome.	It is advised to restrict the capture of post-operative events to those that create a life threatening event, extended hospitalization, and/or medical intervention to ward off clinical deterioration.	Consultations Diagnostic reports Laboratory reports Nursing notes Physician progress notes Procedure reports
August 2013	Patient develops a pseudoanuerysm post op in the brachial artery from his cath requiring a thrombin injection. Is seq# 6350 coded as "yes"?		No, do not code other complication for this pseudoanuerysm.	

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Q. MORTALITY **The intent of this section is to capture mortality.**				
6360	Mortalty	Indicate whether the patient has been declared dead within this hospital or any time after discharge from this hospitalization. This includes all causes of death, including those causes clearly unrelated to the operation.	Allows for those sites with longitudinal follow-up programs to record a patient's death that has occurred beyond the procedure admission. The mortality field is to be coded "Yes" when the patient is identified as a death. This could be while the patient is in the hospital for the current procedure, within 30 days of the procedure or "long term" meaning whenever the patient dies in the future. This could be six months, five years, or anytime in the future.	Discharge summary Longitudinal follow-up process Physician progress notes Query hospital based readmission program
6370	MtDCStat	Indicate whether the patient was alive or dead at discharge from the hospitalization in which surgery occurred.	Indicate if the patient was "alive" or "dead" at the time of discharge.	Death certificate Discharge summary Physician progress note
6380	Mt30Stat	Capture whether the patient was alive or dead at 30 days post surgery (whether in the hospital or not).	Example: A patient had valve repair on 6/28 and was discharged home on 7/5 and then the patient was readmitted on 7/13 with sepsis and required redo valve surgery on 7/20 and ultimately died on 7/25: The readmission would be recorded on the first data collection form and a second data collection form would need to be generated for the second procedure. In order to accurately capture this patient's outcomes, the death needs to be recorded on both data collection forms.	Clinic follow-up visit note Discharge summary Longitudinal follow-up process Outpatient record Query hospital based readmission program
6381	Mt30StatMeth	Indicate the primary method used to verify the patient's 30-day mortality status.	Choose from the following: 1. Phone call to patient or family 2. Letter from medical provider 3. Evidence of life in medical record (lab tests, cardiac rehab visits, etc.) 4. Office visit to surgeon more than 30 days after procedure 5. Social Security Death Master File 6. Other	Data Manager Log
6390	MtOpD	Capture whether the patient had operative mortality: Include both: (1) All deaths occurring during the hospitalization in which the operation was performed, even if after 30 days. (2) Those deaths occurring after discharge from the hospital, but within 30 days of the procedure unless the cause of death is clearly unrelated to the operation. *December 2013 - All mortality is to be captured.*	If a death occurs outside of the hospital but within 30 days, it is considered surgically related ~~unless it is clearly unrelated to the operative procedure. Example of a non Operative Mortality is if the death was the result of an accident/trauma or cancer.~~ December 2013 Example # 1: After several days postoperatively, a patient is transferred to a Rehab Hospital and eventually dies in the Rehab Hospital (having never gone home after the surgery: The STS definition for operative mortality includes all deaths occurring during the hospitalization in which the operation was performed even if after 30 days. In the above case the death should be coded as "Yes" for operative mortality if it occurred within the 30 day time frame. If the patient was discharged to Rehab and expired greater than 30 days this	Clinic follow-up visit note Death certificate Discharge summary Longitudinal follow-up process Outpatient record

			would be coded "No". Example # 2: A patient was admitted for a hip replacement and it was discovered that he had a MI. The patient had a CABG two days later. Fourteen days after the CABG the patient had the hip replacement. Twenty eight days later the patient expired. The patient never left the hospital. Code "Yes" to capture all deaths occurring during the hospitalization in which the operation was performed. Example # 3: A patient was transferred after surgery from an acute care hospital (Hosp A) to another acute care hospital (Hosp B) (for higher level of renal care) and ultimately died over 30 days beyond the procedure. The patient never left Hospital B: This would not be considered an operative mortality because it is considered a discharge from Hospital "A". Therefore, if the patient was discharged from the hospital in which the operation was performed and died outside of the 30 day window code" No". If the patient died within 30 days code "Yes". Example # 4: A patient is discharged from an acute care hospital after cardiac surgery to a skilled nursing care unit of the hospital and then readmitted to the hospital and dies within 30 days of the procedure: This would be considered "Yes" for operative mortality because the patient died within 30 days of surgery. Example # 5: A patient is readmitted to acute care hospital from a skilled nursing unit and dies 30 days beyond the procedure: This would not be considered an operative mortality because the patient was discharged from the hospital in which the operation was performed and the death occurred outside the 30 day window. DNR scenarios: Example # 6: Two patients had renal consults pre-op due to elevated creatinine and both developed post-op renal failure requiring dialysis. In both cases the patients were moving along in their progress but decided they did not want to continue dialysis and initiated DNR requests. Both patients never left the hospital and both expired within 30 days of the surgical procedure. Example # 7: Pt is readmitted on postoperative day seven with a diagnosis that plausibly could be related to the CABG procedure, but is certainly a treatable condition (e.g.-cholecystitis, UTI, pneumonia, etc.). The family, however, says, "Dad has had a good life...we refuse to let you treat him." DNR status is initiated and the patient expires one week later. For both of these scenarios operative mortality should be coded as "Yes". Regardless of the DNR status, the patients expired within 30 days of the procedure and the cause of death is not clearly unrelated to the surgery.	

July 2011	The patient had an uncomplicated valve procedure. He was discharged and readmitted with GI bleeding within 30 days. He was transfused, no procedures were done. He aspirated, coded and died. Is this an operative mortality?		Yes.	
6400	MtDate	Capture the date the patient was declared dead.	Record the date of death regardless of its time interval from the surgical procedure.	Death certificate Discharge summary Longitudinal follow-up process Outpatient record Physician progress notes SSDMF
July 2013	The patient is pronounced dead on 3/13/2013 but is not discharged until 3/16/2013 when One Legacy comes to harvest organs. How do you code discharge date, ICU hours and mortality date?		Use the date and time on the death certificate (when the patient was pronounced dead).	
6410	MtLocatn	Capture the patient's location at the time of death.	Operating Room (OR) During Initial Surgery Hospital (Other Than Operating Room) Home Extended Care Facility Hospice Acute Rehabilitation Operating Room (OR) During Reoperation Unknown Other	Death certificate Discharge summary Longitudinal follow-up process Outpatient record Physician progress notes Query hospital based readmission program

6420	MtCause	Indicate the PRIMARY cause of death, i.e. the first significant abnormal event which ultimately led to death. Cardiac Neurologic Renal Vascular Infection Pulmonary Valvular Unknown Other	If the patient died due to multiple organ system failure, select the system that either was the initiator of the Multisystem Organ Failure (MSOF) or the primary cause of the patient's demise (patient scenario may be: patient had a massive stroke 24 hours after surgery and never woke up, developed new renal failure with dialysis, pneumonia and ventilator dependence (unable to be extubated) and gangrenous bowel secondary to multiple emboli with sepsis. Cause of death would be neurologic). Example: A patient develops a large pneumothorax post op which then causes the patient to develop asystole and death occurs: The primary cause of death would be the FIRST significant event which ultimately leads to the patient's death. Code "Pulmonary" because the first event is the pneumothorax.	Clinic follow-up visit note Death certificate Discharge summary Longitudinal follow-up process Outpatient record Physician progress notes

R. DISCHARGE **This section is designed to capture discharge medications and processes. Not all medications are expected to be given to all patients. Discharge beta blockers, aspirin and/or antiplatelet medication and antilipids are included in the composite measure for CABG patients.**				
6430	DCADP	Indicate whether or not the patient was discharged from facility on ADP Inhibitors.	These medications inhibit adenosine diphosphate (ADP) induced platelet aggregation (clotting). Often used to treat patients with a history of atherosclerotic cardiovascular disease to potentially reduce the incidence of major cardiovascular events (stroke, peripheral arterial disease, etc.). Examples- see appendix Discharged on ADP Inhibitors at discharge Not prescribed ADP Inhibitors at discharge Antiplatelet medications have been shown to improve graft longevity and are recommended for CABG patients at discharge. They may be used in addition to or instead of ASA therapy.	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
6440	DCAArhy	Indicate whether or not the patient was discharged from facility on antiarrhythmics.	Drug selection is based on the underlying arrhythmia, side effects and presence of other system disease processes. Note: See Antiarrhythmic Table for a listing of the medications Discharged on antiarrhythmics at discharge Not prescribed antiarrhythmics at discharge Sotalol/Betapace is identified as both an antiarrhythmic and a beta blocker in the Training Manual: If it can be abstracted from the patient record that the patient was placed on Sotalol for both antiarrhythmic and beta blockade purposes, then both antiarrhythmic and beta blocker fields should be coded as “Yes.”	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
6460	DCASA	Indicate whether or not the patient was discharged from facility on aspirin, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, or physician assistant. Select one -Yes -No -Contraindicated	Includes enteric coated and/or baby aspirin. Aspirin acts to increase the blood viscosity and inhibits the clotting of platelets. Note: See the Aspirin Table for a listing of the medications on the next page. This medication table is not meant to be all-inclusive. Discharged on Aspirin at discharge Not prescribed Aspirin at discharge Documented evidence of contraindication: If a contraindication is documented explicitly as - excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival), check “Contraindication.” Otherwise, do not check “Contraindication.”	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
July 2011	Is aspirin indicated for all patients or only CABG?		Aspirin or another antiplatelet medication prescribed at discharge is a quality indicator for CABG patients.	

6470	DCACE	Indicate whether or not the patient was discharged from facility on ACE Inhibitors or ARBs, or if they were contraindicated or not indicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, or physician assistant.	Primary use is for the treatment of hypertension but is also **an essential treatment for congestive heart failure** (reduces the workload of the heart). Routine, lifelong use of angiotensin converting enzyme (ACE) inhibitors (or angiotensin receptor blockers) is recommended for heart failure patients with a lower than usual ejection fraction (40 percent or less). ACE-I = Angiotensin Converting Enzyme Inhibitor ARB =Angiotensin II Receptor Blocker Action is to dilate blood vessels to improve the amount of blood the heart is able to pump and thereby reducing the workload on the heart. Note: See the ACE Inhibitor/ARB Table for a listing of the medications on the next two pages. These medication tables are not meant to be all inclusive. Discharged on ACE Inhibitor or ARB at discharge Not prescribed ACE Inhibitor or ARB at discharge, documented evidence of contraindication Not prescribed ACE Inhibitor or ARB at discharge, not medically indicated (EX: Patient does not have CHF) **If not prescribed for a patient with CHF and no reason is documented, leave blank. This will be remedied in the next version.**	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
June 2011	There is no option for “No” if there is no documentation in the chart of a contraindication and the patient has heart failure but no ACE or ARB was prescribed. How do we answer this?		Leave this field blank, it will be remedied in the next version. Do not choose contraindication or not indicated unless there is documentation in the chart to support either of those choices.	

6480	DCBeta	Indicate whether or not the patient was discharged on beta blockers, or if a beta blocker was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, or physician assistant. Select one: -Yes -No -Contraindicated	Beta blockers have been proven to increase survival of cardiac patients following MI and in the perioperative period. Beta blockers are used for the treatment of high blood pressure, treating chest pain or angina, controlling irregular heart rhythms, slowing ventricular rate response and for the treatment of congestive heart failure. Many of the side effects of beta blockers are related to their cardiac mechanisms and include bradycardia, reduced exercise capacity, heart failure, hypotension, and atrioventricular (AV) nodal conduction block. Beta blockers are therefore contraindicated in patients with sinus bradycardia and partial AV block. Considerable care needs to be exercised if a beta blocker is given in conjunction with cardiac selective calcium channel blockers (e.g., verapamil) because of their additive effects in producing electrical and mechanical depression. Bronchoconstriction can occur, especially when non-selective beta blockers are administered to asthmatic patients. Therefore, non-selective beta blockers are contraindicated in patients with asthma or chronic obstructive pulmonary disease. Hypoglycemia can occur with beta blockade because β_2 adrenoceptors normally stimulate hepatic glycogen breakdown (glycogenolysis) and pancreatic release of glucagon. Therefore, beta blockers are to be used cautiously in diabetics. Documented evidence of contraindication: For each medication, check if the medication was not administered or ordered according to the data specification timeframe as documented anywhere in the medical record. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival), check “Contraindication.” Otherwise, do not check “Contraindication.” Sotalol (Betapace) is a beta adrenergic blocking agent and is very (most commonly) often used as an antiarrhythmic agent. Betapace is different than Betapace AF (difference is dose and safety related) and they should not be used interchangeably. It is correct to identify Sotalol (Betapace) as a beta blocker and/or antiarrhythmic. BUT the majority of the time it is used as an antiarrhythmic. Data Managers will need to abstract from the chart the reason for which the Sotalol (Betapace) was given and code appropriately: 1. Antiarrhythmic or beta blocker OR 2. Antiarrhythmic and beta blocker Note: See the Beta Blocker Table for the listing of the medications.	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary

6490	DCLipid	Indicate whether or not the patient was discharged on a statin or lipid lowering medication, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, or physician assistant. Select one: -Yes -No -Contraindicated	Lipid lowering medications block the production of cholesterol and fat. Depending upon the specific medication, each may target unique levels such as HDL (good cholesterol), LDL (bad cholesterol) and triglycerides or polipoprotein B (protein needed to produce cholesterol). They may also reduce the absorption of dietary cholesterol by combining with the cholesterol to remove it from the bloodstream. Note: See the Antihyperlipidemic Agent Table for a listing of the medications on the next page. This table is not meant to be all inclusive. Discharged on a statin or lipid lowering medication at discharge Not prescribed a statin or lipid lowering medication at discharge Documented evidence of contraindication: For each medication, check if the medication was not administered or ordered according to the data specification timeframe as documented anywhere in the medical record. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival), check "Contraindication." Otherwise, do not check "Contraindication".	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
6500	DCLipMT	Indicate the type of lipid-lowering medication the patient was on when discharged from the facility. -Statin -Non-statin -Both -Other	The "statin" drugs have powerful lipid-lowering properties.). Note: See the Antihyperlipidemic Agent Table for a listing of the medications. This table is not meant to be all inclusive. Medications with (*) indicate a "statin" drug.	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
July 2011	Is fish oil a non-statin? If patient is discharged on statin and fish oil how do I code that since you can only choose one?		Code fish oil as non-statin, if discharged on both statin & fish oil code the statin.	
6510	DCCoum	Indicate whether the patient was discharged from the facility on Coumadin Select one: -Yes -No	The primary action of Coumadin/Warfarin is to prevent or delay blood coagulation. Brand/Trade Name Generic Name Coumadin Warfarin Discharged on Coumadin at discharge Not prescribed Coumadin at discharge	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary

6511	DCDirThromIn	Indicate whether the patient was discharged from the facility on a direct thrombin inhibitor.	Direct thrombin inhibitors (DTIs) are an innovative class of anticoagulants that bind directly to thrombin to inhibit its actions and impede the clotting process.	Discharge instruction sheet Discharge summary Medication administration record Physician progress notes Transfer summary
6520	DisLoctn	Capture the location to where the patient was discharged.	-Home -Extended Care/Transitional Care Unit (TCU)/Rehab -Other Hospital -Nursing Home -Hospice -Other If the patient resided in a nursing home before surgery and is discharged to a nursing home, code as “Nursing Home” even though it is considered the patient’s “home”.	Discharge instruction sheet Discharge summary Physician progress notes Social service notes
6530	CardRef	Capture whether advice was given or discussion conducted with the patient (by physician, nurse, or other personnel) regarding the importance of joining a cardiac rehabilitation program, or an appointment made.	Identify those patients who are referred to post discharge cardiac reconditioning and rehabilitation. Do not count Phase I, in hospital rehab as “Yes”. This is a Joint Commission endpoint and is to be documented on every patient. Example: A patient refuses to go for cardiac rehabilitation: The intent is to capture patients that receive a referral. The intent is NOT to capture patients that may refuse, never attend, or did not complete a program. If the referral is made, code as “Yes”. Cardiac rehabilitation programs are many times free standing or external to an acute care setting. Cardiac rehabilitation programs are designed specifically for the patients with cardiac disease who have medical and/or surgical recovery needs. If the patient is clinically, mentally or emotionally inappropriate for a referral, identify as “Not Applicable”.	Discharge instruction sheet Discharge summary Physician order sheet Physician progress notes Social service notes

6540	SmokCoun	Identify whether, PRIOR to discharge from the acute care facility, the patient received smoking cessation counseling. Select "Not Applicable" for those patients with no prior history of smoking. or remote (more than 1 year) history.	This is a Joint Commission endpoint and it must be documented that either literature and/or counseling was offered and provided to the patient. If the patient is clinically, mentally or emotionally inappropriate for a referral, select “Not Applicable”.	Discharge instruction sheet Nursing notes Patient teaching flow sheet Physician progress notes

S. READMISSION **This section is intended to capture readmissions within 30 days and the primary reason.**				
6550	Readm30	Indicate whether the patient was readmitted **as an in-patient** within 30 days from the date of initial surgery for ANY reason. This includes readmissions to acute care, primary care institutions only. Do not include readmissions to rehabilitation hospital, or nursing home.	**This is not part of the composite score.** It is understood that some readmissions are planned; these are still counted as readmissions. Readmission does not need to be at same institution as surgical procedure. Obtain information as close to 30 days from date of procedure as possible. Do Not include Emergency Dept. visits or observation. The intent is to capture **inpatient** readmissions to acute care and primary care institutions only. If a patient is readmitted to an inpatient rehabilitation hospital, code "No". On occasion a patient is readmitted twice within the 30 day time frame from the date of the procedure. This is a Yes/No question, and does not ask how many times readmitted. Any time the patient is readmitted to a hospital ≤30 days from the date of procedure regardless if the readmission was planned or unplanned, related or unrelated. ~~Due to the variation between an institution's definition of Observation Status or "STO"; (Short term Observation), these types of readmissions need to be coded as a readmission if the readmission occurs within 30 days. If the patient is being admitted, receiving care, and generating a bill; thus, for the purposes of the STS, both observation and formal inpatient readmission should be coded as a readmission.~~ Example # 1: A patient is re-admitted to the hospital after a CABG for reasons that were planned (ex, colon resection or cholecystectomy) Code these readmissions "Yes". Example # 2: A patient is readmitted as an ambulatory surgery observation patient, (not an inpatient) and was in the hospital for 3 days and had an insertion of a Pleurx catheter: Code this "Yes" as a readmission as long as this was ≤ to 30 days from the date of procedure. Example # 3: A patient was admitted to the hospital for a CABG and had complications, which required a BiVAD. The patient was transferred to another acute hospital for continuing care because of the BiVAD. The transfer was immediate from one facility to the other. The transfer to the other acute care facility is considered "Yes" for a readmission and for Readmit Reason code "Other Related Readmission" if the BiVAD is inserted at your institution. Example # 4: A patient is readmitted 11 days post op for pleura/pericardial effusion and has a thoracentesis. The patient is then readmitted 17 days post op and has pericardiocentesis: Collect the information for the first readmission to the hospital and the reasons for that admission. Example # 5: A patient underwent an ascending aortic dissection repair on	Clinic follow-up visit note Discharge notes Longitudinal follow-up process Referring physician notes

			2/2 and was discharged home on 2/9 and was readmitted on 2/29 and had a repeat repair of the ascending aorta: Two data collection forms would be needed. On the first form, code "Yes" for Readmit ≤30 Days from DOP. All outcomes from the second procedure would need to be captured on a second data collection form.	
December 2013	Updated clarification in red above.			
October 2011	How do you code readmission for thoracentesis?		Code as other procedure.	
October 2011	Custom Field #2 Was patient readmitted within 30 days of discharge?		Yes or no This is to harmonize with CMS's definition of readmission which differs from ours, readmission within 30 days of surgery. This applies to inpatient admissions only, not ED visits or observation. Collect both.	

6560	ReadmRsn	Identify the **primary** reason that the patient was **readmitted as an in-patient** within 30 days from the date of initial surgery.	If the readmission reason was different than discharge reason, capture the discharge diagnosis. Example: patient was admitted with "angina" but at discharge it was "Ruled Out" and diagnosed as "Chest wall pain". Therefore, coding the admission diagnosis would have misrepresented the readmission reason. Interest is in those conditions that have a physiological relationship to cardiothoracic surgery. Readmit Reason-Primary Procedure must be completed if known. **Anticoagulant Complications-valvular** relates to thrombus forming in, on and around the prosthetic valve. **Anticoagulant Complication-Pharmacological** A patient's readmission was due to a bleeding complication related to the administration of an anticoagulant, IIb/IIIa inhibitor or other platelet inhibitor, for example Plavix, Coumadin, ReoPro etc. **Arrhythmia/Heart Block** Patient admitted due to rhythm irregularities that may have required pharmacological, non-invasive, or invasive treatment. **Congestive Heart Failure** May be manifested as pulmonary edema or only identified as "heart failure". **MI and/or Recurrent Angina** MI diagnosis and/or angina diagnosed by the criteria listed in the definition. Prior to coding as MI or recurrent angina, verify with discharge diagnosis to assure that the MI was 'ruled in' or that the patient reported angina was not secondary to chest wall pain. As diagnosed with echocardiography, chest x-ray or other methods. **Pericardial Effusion and/or Tamponade** May or may not require invasive intervention on readmission i.e. re-exploration or pericardial tap. **Pneumonia or other Respiratory Complications** Pulmonary edema, pleural effusions that may or may not require tap, pneumonia as documented by x-ray or culture. **Coronary Artery Dysfunction** This may include native vessels and/or conduit restenosis, spasm or dissection. **Valve Dysfunction** Can be either structural (i.e. leaflet fracture, impaired leaflet function, calcification) or non-structural (perivalvular leak, hemolytic anemia, pannus obstruction) dysfunction. Is applicable to either a mechanical or tissue valve. **Infection- Deep Sternum or Mediastinitis** Use CDC definitions may or may not require surgical intervention. **Infection Conduit Harvest Site** Use CDC definitions **Renal Failure** Use RIFLE criteria. **TIA** Transient Ischemic Attack, neurological dysfunction that lasted less than 24 hours and completely resolved. **Permanent CVA** Confirmed neurological deficit of abrupt onset caused by a disturbance in blood flow to the brain that did not resolve within 24 hours.	Clinic follow-up visit note Discharge notes Longitudinal follow-up process Referring physician notes

			Acute Vascular Complication Any major arterial or venous circulatory compromise that requires pharmacological, non-invasive or invasive treatment to resolve; i.e. peripheral delivery of TPA, peripheral angioplasty. **Endocarditis** Confirmed diagnosis of endocarditis by blood culture and/or vegetation on or around a heart valve. Either native tissue, ring or mechanical valve involvement. **VAD Complication** Any device failure, malfunction of VAD. **Transplant Rejection** There are two forms of acute rejection: cellular and vascular. The chances of acute cellular rejection are greatest during the first six months after transplant. Acute vascular rejection is a type of acute rejection that occurs early after transplant (within the first four months) in a small number of patients. **Pulmonary Embolism** Pulmonary embolisms must be documented through diagnostic testing such as VQ scan, angiogram or CT **Deep Venous Thrombosis** (DVT) is the formation of a blood clot in the deep veins within the body, such as in the leg or pelvis diagnosed by ultrasound. **Other –Related Readmission** Those conditions that may have a correlation to cardiothoracic surgery. Example # 2: A patient was admitted to the hospital for a CABG and had complications, which required a BiVAD. The patient was transferred to another acute hospital for continuing care because of the BiVAD. The transfer was immediate from one facility to the other. The transfer to the other acute care facility would be considered "Yes" for a readmission and for Readmit Reason code "Other Related Readmission" **Other Nonrelated readmission** All other reasons for admission i.e. trauma, cancer, gastrointestinal. Example # 3: A patient is re-admitted to the hospital after CABG for reasons that were planned (ex, colon resection or cholecystectomy) This would be coded as "Other-Nonrelated Readmission". **Reference:** "Guidelines for Reporting Morbidity and Mortality After Cardiac Valvular Operations" Edmunds LH., Ann Thorac Surg 1996; 62:932-5	

6570	ReadmPro	Indicate the **primary** procedure that the patient received after being readmitted **as an in-patient** within 30 days from the date of initial surgery.	**OR for Bleeding**: Bleeding due to pericardial tamponade or specific cardiac surgery related. **Pacemaker Insertion / AICD:** Permanent Pacemaker or Implantable Cardioverter Device secondary to arrhythmia or heart block. **PCI:** Percutaneous cardiac intervention, angioplasty, STENT or other coronary occlusive therapies. **Pericardiotomy / Pericardiocentesis:** Pericardiotomy is removal of all or part of the pericardium. Pericardiocentesis is drainage of accumulated fluid from or around the heart that creates hemodynamic compromise for the patient. Pericardiocentesis is typically performed as a non-surgical intervention, but a more invasive approach can be achieved through the surgical procedure of pericardial window. **OR for Coronary Arteries:** Any surgical intervention on any of the coronary arteries due to progressive native coronary disease, conduit spasm, occlusion or dissection. **OR for Valve:** Any surgical procedure performed (repair and/or replacement) on any heart valve; native, prosthetic or ring/band device. **OR for Sternal Debridement / Muscle Flap:** Any surgical intervention necessary to debride (clean or remove marginal tissue or muscle) or Plastic Surgeon involvement to perform muscle flap reconstruction for deep sternal wound infection. **Dialysis:** The patient required new hemo or peritoneal dialysis. May include CRRT. **OR for Vascular:** Any (arterial) vascular surgical procedure required. Examples would include but are not limited to: (femoral hematoma evacuation, PTA, AAA, Carotid Endarterectomy, Fem-Pop bypass etc.) **No Procedure Performed:** There was no invasive or non-invasive procedure performed. Patient may have been managed by medical observation, pharmacological or other medical therapies. **Other Procedure:** Some type of invasive or non-invasive procedure was performed that is not included in the above referenced list. **Unknown:** Use this field selection only if there is no information available as to the treatment/intervention prescribed. All effort should be made to identify the treatment used.	Clinic follow-up visit note Discharge notes Longitudinal follow-up process Referring physician notes

Custom Text Field 2			The Center for Medicare & Medicaid services (CMS) follows hospital readmissions *within 30 days from discharge*. The STS Adult Cardiac Surgery Database currently collects readmissions *within 30 days of surgery* using the field "Readmit <= 30 Days from DOP" (short name=Readm30). In order to collect data that meets the CMS readmission definition, STS is now going to make use of the field "STS Custom Text Field 2" (short name=STSCustTxt2) to capture readmission within 30 days of discharge. The STS custom fields should already exist in your certified software and this should not require any intervention from your vendors (although some might voluntarily make updates to their software to change the label on the field, etc.) This field should be completed on all patients entered in version 2.73 (i.e., all records with Surgery Date of July 1, 2011, forward) who were discharged alive. The definition for the custom field will now be "Indicate whether the patient was readmitted within 30 days of discharge." Since this is a text field, your certified software will not limit what values can be entered into this field. The data warehouse will process the data in the following manner: <u>Value submitted Interpreted harvest code</u> Yes 1 Y 1 1 1 No 2 N 2 2 2 <any other values> <set to missing> For analysis, the interpreted harvest codes will processed as follows: 1 = Yes 2 = No Data managers should start filling in this field for all of their patient records that are following data version 2.73 If you have any questions about this, please contact your Clinical Data Specialist.	

The date in the upper left corner reflects the most recent update. FAQs will be posted in the relevant section.

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