Adult Cardiac Surgery National Database
of the
Society of Thoracic Surgeons

Software Specifications

Version 2.9

Current as of February 13,2017

Note: Some portions of this document are highlighted in gray. Although it is critical for the success of the developer's software that all of the information in this document be understood and followed, the highlights are used to point out areas that have changed since previous versions or areas of extreme importance to the functionality of the software.

Purpose:

The purpose of this document is to describe the features that are required to exist in software certified by The Society of Thoracic Surgeons (STS) for the collection and submission of Adult Cardiac Surgery data. The STS is making an effort to set minimum standards for the software to be used by its members, while allowing enough flexibility so that developers can produce competitive features for the members' benefit.

The intended audience for this document is the software developers who are designing and maintaining the code used by participants to collect and submit data to the STS database. This information will be essential for developers working for vendors who will distribute their software to many members as well as developers working for an individual member designing a package to be used only by themselves (Participant Generated Software).

Note: All software used to collect data to be submitted to the STS Data Warehouse must go through a certification process before data will be accepted into the national database. Developers must also have a signed contract on file with the STS before the certification process can begin.

Since the functionality of the software will revolve around the data specifications, this document will start by providing some information about the specifications.

Data Specifications:

1. Structural changes between versions 2.81 and 2.9.

    - The field "FieldStatus" was added to the data specifications table at the request of several vendors to contain a value showing the relationship of each field in this data version compared to the most recent data version.

2. Purpose of the Data Specifications

    The data specifications describe the data fields that are required to exist in certified software. It details the field names, definitions, dependencies, acceptable values, the harvest codes associated with those values, etc. Developers of certified software should use the data specifications to ensure their software:

    a. includes all core fields in the application (see description of Core fields below),
    b. uses the correct programmatic name (Short Name) for each field,
    c. follows the defined field dependency rules (see description of Parent / Child relationships below),
    d. accepts only the defined valid values appropriate to each field and ensures that the values are in the correct format,
    e. provides the user with appropriate field definitions, and

    f.   includes only the appropriate fields in the extracted data files the site will submit to the Data Warehouse.

3. Data Version Numbers

As medicine, technology and interest in research areas change, the data specifications have and will change to collect additional and more detailed information. A Data Version number is assigned by the STS to each official version of the data specifications. This number will play a key role in how the data is handled and processed (see Software Specifications below).

STS members were required to start using certified software as of January 1, 2000. At that time, version 2.35 of the data specifications was put into affect and any data collected for procedures performed before January 1, 2000 were converted as closely as possible to the 2.35 format.

Since that time, the data specifications have been upgraded six times; first to version 2.41 and then to 2.52.1, 2.61, 2.73, 2.81 and now 2.9. For the upgrades to versions 2.41, 2.52.1, and 2.61, there was a conversion period when the data could be recorded following either the version being replaced or the newer version. This allowed sites to continue entering their data into an old version of their software while they are waiting to have their software upgraded.

Beginning with the upgrade to version 2.73, the data version of the record is determined by the date of surgery. When users indicate they want to create a new data record, the software must first prompt the user for the surgery date. This process will ensure that all records in the national database for procedures performed during a specific time period will follow the same data version, regardless of when the record was created.

The following table defines which version of the data specifications will be accepted into the national database for procedures performed during the specified time periods:

Surgery date	Data Specifications version number
Any dates up to December 31, 1999	Data converted to 2.35 format
January 1, 2000 through December 31, 2001	2.35
January 1, 2002 through June 30, 2002	2.35 or 2.41

July 1, 2002 through December 31, 2003	2.41
January 1, 2004 through December 31, 2004 *	2.41 or 2.52.1
July 1, 2004 through June 31, 2007	2.52.1
July 1, 2007 through December 31, 2007	2.52.1 or 2.61
January 1, 2008 through June 30, 2011	2.61
July 1, 2011 through June 30, 2014	2.73
July 1, 2014 through June 30, 2017	2.81
July 1, 2017 through the current date	2.9

* Note, in previous versions of this software specifications document, the surgery date range for accepting data versions "2.41 or 2.52.1" was incorrectly stated to be January 1, 2004 through June 30, 2004. The information in the chart above is now correct.

4. Sequence Number

The sequence number field (SeqNo) is provided in the data specifications solely for identifying fields and sorting fields within as specific version of the data specification database and documentation. They are not intended as a permanent identifier for individual fields and a number assigned to a field in one version of the data specifications might be assigned to a different field in another version. Because of this, it is highly recommended that developers should not use the SeqNo value as a field identifier in any of their programs. See Appendix D for a list of SeqNo values for each field for each of the most recent versions of the data specifications.

5. Future Upgrades

As the need arises, new versions of the data specifications will be distributed by the STS. In the interest of keeping major software upgrades and testing down to a minimum, the STS does not expect to upgrade the specifications more frequently than once every other year. Developers should anticipate these upgrades and design their software in such a way that the new versions can be incorporated with minimal software changes and that records created under different data versions will be handled properly, as described below.

6. Data Specifications field descriptions

The data specifications are maintained in a table in an Access database to allow the information to be cut and pasted, sorted and reported on in a variety of ways to make incorporating the information easier for the developer. The table for the 2.9 version of the specifications contains 20 fields which are described here:

Table name: tblDataSpecificationsV2_9

A. SeqNo – An arbitrary number (sequence number) used for ordering the fields within a specific version of the data specifications. The ordering of the numbers is set to loosely follow the order in which the fields appear in the DCF. As described above, the SeqNo value for one field can change from one version of the specifications to the next. The values, therefore, should never be used in any reports, queries or programs to refer to a specific field.

B. SectionName – The name of the section of the DCF where the field is located.

C. SectionSeqNo – The order number of the section of the DCF where the field is located.

D. LongName – The longer and more descriptive name of the field. In most cases, the LongName does not change from one version of the specifications to the next, but they do change in some instances. Because of this, the LongName value should never be used to refer to a field in reports, queries or programs.

E. ShortName – The short, programmatic name assigned to the field. The ShortName value should be used in all reports, queries and programs to refer to a given field as this value will not change from one version of the specifications to another.

F. Core – This field contains a value of Yes or No to define whether or not the field should be available to the users for data entry. Whether or not the field is included in data files exported for submission to the STS database depends on what other data versions are being included in the data extract. (See the "Data export for harvest to the data warehouse" section of the Software Specifications below.) The values in this field have the following meanings:

   ▪ Yes = Field must be available to the users for entering data for records following this version of the data specifications and the field must be included in the data files exported for submission to the STS database that contain records following this data version.

   ▪ No = Field is not required to be available to the users for entering data for records following this version of the data specifications. Fields defined with Core=No are in the specification only to be able to express that the field was being collected in the previous version of the specifications, but is no longer being collected. A field defined in this way in one version of the specifications, will not appear at all in the next version.

G. Harvest – This field contains a value of Yes, No or Optional to define whether or not the data for this field is included in the export file to be submitted to the data warehouse. (See the "Data export for harvest to the data warehouse" section of the Software Specifications below for more details about the contents of the files submitted to the data warehouse.) The values for this field have the following meanings:

- Yes – Data from this field must be included in the data file for all records following this version of the data specifications.
- No – Data from this field must not be included in the data file for all records following this version of the data specifications.
- Optional – The individual users determine whether or not the data from this field is included in the data file. By default, the software should treat this as a Yes and include the data in the extract. The users must explicitly state that they do not want the data for this field included. This distinction is defined for fields the STS would prefer to have included in the harvest, but the site might have reasons (such as not being allowed by state laws) for not including the values in the harvest file.

H. Format – The format in which the values for the field should be collected. The options for this field are:

- Date - mm/dd/yyyy: Date values only with the month specified as a 2-digit numeric value, day specified as a 2-digit numeric value, and year specified as a 4-digit numeric value.
- Time - hh:mm (24-hour clock): Time values only with the hours specified as a 2-digit numeric value (in 24-hour format), and the minutes specified as a 2-digit numeric value.
- Date/Time - mm/dd/yyyy hh:mm : Date and time values in one field with the month specified as a 2-digit numeric value, day specified as a 2-digit numeric value, and year specified as a 4-digit numeric value, followed by a single space and then the hours specified as a 2-digit numeric value (in 24-hour format), and the minutes specified as a 2-digit numeric value.
- Integer: Numeric values with no decimal points.
- Real: Numeric values with at least one decimal point.
- Text: Value can contain any alphanumeric characters.
- Text (categorical values specified by STS): Values displayed to the user are the text descriptions defined in the data specifications table. The values submitted to the Data Warehouse are the Harvest Codes defined in the data specifications.
- Text (categorical values specified by user): Values displayed to the user and submitted to the Data Warehouse come from a list maintained by the user (see item "e" under the "3. Data Entry" section of the "Software Specification" below).

I. DataSource – This field defines how the data is entered into the field. The options for this field are as follows (note, in some cases, there is more than one option for data source, such as "User or Calculated"):
- User – The user enters the value, otherwise it is left missing (null).
- Automatic – The software automatically inserts a value for every record. This is usually assigned to administrative fields that must contain a value, such as the DataVrsn field.

- Calculated – The value is calculated by the software based on values in other fields (for example, the risk model fields). The formulas used to calculate the Meld Score, the total ventilation hours, and the total circulatory arrest time are provided in Appendix A, Appendix B, and Appendix C respectively below (Note that the calculation of the total ventilation hours changed slightly for v2.9). The methods used to calculate the risk scores are provided in separate documentation (contact the Data Warehouse for this information).
- Lookup – The software automatically inserts a value after looking up the information kept in a table maintained by the user. For example, HospStat is filled in based on which HospName value is selected (see item "e" under the "3. Data Entry" section of the "Software Specification" below).

J. DataLength – The number of characters a text field should be able to hold. This value is only specified in cases where a specific length is required.

K. DBTableName – The name of the table in the export file in which the field should reside. For the Adult Cardiac Database, this value is null since the data structure is a flat file.

L. Definition – The official definition of the field.

M. LowValue – The lowest valid value that can be accepted for the specified field. This is used only in fields that accept numeric values.

N. HighValue – The highest valid value that can be accepted for the specified field. This is used only in fields that accept numeric values.

O. UsualRangeLow - The lowest value that is likely to be entered by the user. If the user enters a value that is below this number, but still greater than or equal to the value defined in LowValue, the value should be accepted, but the user should be given a message that the value they entered is unusually low and that they should verify the value.

P. UsualRangeHigh - The highest value that is likely to be entered by the user. If the user enters a value that is above this number, but still less than or equal to the value defined in HighValue, the value should be accepted, but the user should be given a message that the value they entered is unusually high and that they should verify the value.

Q. ParentLongName – The "parent" field on which this field (the "child" field) is dependant. Software must be defined such that the parent field must contain a value that is specified in the ParentValue field before data can be entered into this field, otherwise the field is disabled or unavailable.

R. ParentShortName – The programmatic "ShortName" of the parent field.

S. ParentValue – The list of values the parent field can have before this field can be available for data entry.

T. ParentHarvestCodes – A bar-delimited list of the harvest codes associated with the values identified in the ParentValue field.

U. FieldStatus – The status of this field in this data version compared to the most recent data version. The options for this field are as follows:
- New – This field did not exist in the previous version of the data specfications and was added to this version.

- Dropped – This field was a core field in the previous version of the data specifications, but is no longer a core field in this version.
- Continued – This fields was a core field in the previous version of the data specifications and continues to be a core field in this version. Note that a field defined as Continued may or may not have had some details changed between the previous and current version of the data specifications.

Table name: tblDataSpecificationsV2_9 _HarvestCodes

A. ShortName – The short programmatic name assigned to the field.
B. HarvestCode– The code that is assigned to each choice in the valid data. These are the values that are used in the exported data file that is submitted to the Data Warehouse.
C. Description – The text description of the choice. This is the value the user sees while doing data entry.
D. DisplayOrder – The order in which the choices are displayed to the user for this field.
E. Definition – The official definition of the specified choice for this field. Note that not all choices will have a definition.

Software specifications:

It is not the intention of the STS to regulate the algorithms and methodologies the developers use to produce their software. However, there are specific features and functionalities that are needed in the software to allow data to be collected and submitted in a uniform format and to enable the warehouse to communicate with the members about individual records and data items. The purpose of this section is to describe those features and functions.

1. General features

   The certified software must have the following minimum features:

   a. Provide a user-friendly interface that can be used on a current personal computer operating system.
   b. Allow users to be able to view and select the actual data values for each field. If the data is coded internally, user should, by default, view the non-coded values.
   c. Ensure all date values are year 2000 compliant having a 4-digit year format.
   d. Software must accept and integrate data previously collected and maintained in other software products or data versions. (See "Data Import", below).
   e. The user's data must be accessible for *ad hoc* queries either through the software package or by common third party software (e.g. Microsoft Access, Crystal Reports, etc.) If the data is not directly accessible, then the software must provide the ability for the user to export the data in a standard file format which can be queried using common third party query software. (See "Data Export for Analysis by Users", below). When users are querying their data, grouping records that were created under multiple data version numbers must be invisible to the user. For example, if a user wants to analyze a risk factor in their data for a time period of two years, the fact that their data was recorded under two different version numbers during that period must not require any additional steps for the user to build the query. We strongly recommend ensuring this by keeping all data in one database regardless of the version number. This requirement is the result of feedback from many frustrated users.
   f. Users must be able to select specific records in their database via key fields including patient's name and the record identification field (RecordID). The search mechanism must label the RecordID field with the text "RecordID".
   g. Software must include a utility that allows users to check the completeness of any or all of their data fields. This utility must allow the user to select which fields are included in the data check and have the option of including all fields or just specified fields. (See "Data quality and completeness checks" below)
   h. Software must include a utility that allows on-demand updates for the valid values and harvest codes for valve and VAD device lists (see "On-demand updates" below)

2. Record management

Each record in the database describes one surgical case (i.e., one admission to the hospital). On each record, there are four key fields used for record management:

a. Participant identification number (ParticID): Each group of surgeons collecting and entering data into a database for submission to the STS is assigned a 5-digit ParticID by the STS. In most cases, all data being entered into a database will be for one participating group, in which case all records will have the same value in this field. In these situations, the developer can have the software enter the value into the record automatically for the user.

In some situations however, more than one participating group will be entering their data into a single database. In these situations, the user should select the appropriate ParticID value from a drop down list (see "Categorical values specified by user" under the Data Source description in the "Explanation of Data Specification Terms", below).

A value for ParticID is required and the software should ensure one exists on every record.

b. Record identification number (RecordID): The RecordID field contains a unique numeric value that identifies the record in the database. This is an arbitrary number and must not be a value that could identify the patient, such as Social Security Number, Medical Record Number, etc. Once attached to a specific record, the value can never be changed, nor can it be reused if the record is deleted. The data warehouse uses the RecordID field to communicate record-specific data quality issues to the participants. Because of this, users must be able to select cases from their database for review using this field and the field must be labeled "RecordID" on the data entry screen. See also the special considerations necessary for this field when importing data from another database in the "Data Import" section, below.

Beginning with version 2.73 of the data specifications, the values generated by the software for the RecordID field must be a combination of a vendor specific code followed by an alphanumeric value that makes the identifier unique. The vendor-specific code will consist of three characters and will be assigned to each vendor and Participant Generated Software site by the STS. The codes will be in a format similar to "V01". For example, the software will generate a RecordID value of V01000001 for the first record and V01000002 for the second record. The purpose of this feature is to allow sites to move their data from one version of a software package to another, or from one vendor package to another, and maintain the referential integrity of their data records.

Together, the ParticID and the RecordID will affect a composite key, which is unique to each record throughout the national STS database.

c. Data Version Number (DataVrsn): The DataVrsn field contains the data specifications version number under which the record is created. The value is automatically entered into the record by the software at the time the record is created. The value then can never be changed, even if the software is upgraded to a newer version of the specifications.

Once a record is created and a data version has been assigned to it, that record will always follow the rules defined by that version of the data specifications. When a user selects a record for editing that has an older data version number, the software must follow the older data specification rules for editing that record. This includes controlling which fields are available to the user, which values are available for each field and the appropriate parent/child dependencies.

d. Patient identification number (PatID): The PatID field contains a unique, arbitrary number to uniquely identify the patient in the database. If one patient has multiple admissions to the hospital, the records for each admission will contain the same PatID value. The number, once assigned to a patient, can not be edited or reused if the patient records are ever deleted. In order to avoid issues of patient confidentiality in transferring records, the PatID value should not be any known identifier such as Social Security Number or Medical Record Number. A PatID value is required on every record regardless of the structure of the software's database.

Beginning with version 2.73 of the data specifications, the values generated by the software for the PatID field must be a combination of a vendor specific code followed by an alphanumeric value that makes the identifier unique. The vendor-specific code will consist of three characters and will be assigned to each vendor and Participant Generated Software site by the STS. The codes will be in a format similar to "V01". For example, the software will generate a PatID value of V01000001 for the first patient record and V01000002 for the second patient record. The purpose of this feature is to allow sites to move their data from one version of a software package to another, or from one vendor package to another, and maintain the referential integrity of their data records.

3. Data entry

The software must have the following features to control the data being entered by the users:

a. For export of data to the warehouse, most data fields have a default value, usually null or blank, which indicates that the data is "Missing" (see data specifications). For data entry purposes the site and vendor may choose to institute internal codes for "Missing" values. As the site drives the need for this feature, the STS data specifications do not define standard codes for "Missing" values during data entry. If a site applies data entry "Missing" codes, the harvest

process must include a step that maps the missing code to the STS specification for "Missing" values (null or blank). Note: zero must never be used to indicate missing data.

b. The user should always be able to delete entered data, and return the field's value to the null or "Missing" value.

c. For any field having specific values or a range of acceptable values defined, the software must restrict data entries to this set of values. For categorical variables this is expressed as a set of harvest codes and descriptions and the user must select from a pick list of these values. For numerical variables, this is expressed as a valid numeric range defined as a LowValue and HighValue, and the user must enter a value on or between the specified limits. If the user enters a value that is not one of the harvest codes or is outside of the defined range, the user must be given an error message in the form of a pop-up message that stops the user from entering data until they acknowledge the message (by clicking "OK"). The message should tell the user that the value is invalid and the invalid value must not be stored in the database.

d. Where a numeric variable has a UsualRangeLow and UsualRangeHigh specified, if the user attempts to enter a value that is outside of that range but still inside the LowValue/HighValue range, the software must warn the user that they are entering an unusual value and ask if the entry is correct. If the user confirms that the value is correct, then it should be accepted into the field.

e. Some categorical text fields are designed to have data values controlled by the user. This applies primarily to a few site-specific fields such as hospital name and surgeon name. These fields are indicated in the Data Specifications by their Format specifying "Text (categorical values specified by User)". The user should be able to maintain the pick list of valid data for these fields including the ability to add, change, or delete list elements. During data entry, the user should be able to enter only values that are in this pick list.

The process of maintaining the list should be separate from the data entry process. In other words, users must purposely add a value to the list to make it available for selection during data entry. If a user enters a value that is not on the list, it should be rejected and not automatically added to the list. The idea here is to avoid the possibility of users entering "free text" which causes unacceptable data quality issues at the warehouse.

It is important that the vendor support the site's ability to control these fields. Items in the user list should not have more than one choice for the same entity. For example, the hospital names "General Memorial Hospital" and "GMH" should not represent select choices for the same hospital.

f. Documentation including data definitions and help should be easily accessible to the user, preferably on-line.

4. Importing data from other data sources

Although the data many participants are entering into their STS certified software may be gathered from another electronic data system at their site (such as an EMR), it is strictly against STS policy for vendors to provide the users with the means to import this data automatically. It is not practical for the STS to certify the mapping of data from each site's EMR to the STS data specifications, which would be required to ensure the integrity of the overall STS database.

There are only two exceptions to this policy:

- Unique Device Identification (UDI) numbers can be imported from devices such as barcode readers. This applies to the following fields:
    o Valve Explant Unique Device Identifier (UDI) [ValExpUDI]
    o Second Valve Explant Device Unique Device Identifier (UDI) [ValExpDevUDI]
    o VS-Aortic Proc-Imp - Unique Device Identifier (UDI) [VSAoImUDI]
    o VS-Mitral Proc-Imp-Unique Device Identifier (UDI) [VSMiImUDI]
    o VS-Tricuspid Proc-Imp-Unique Device Identifier (UDI) [VSTrImUDI]
    o Previous VAD Unique Device Identifier (UDI) [PrevVADUDI]
    o VAD-Implant Unique Device Identifier (UDI) [VImpUDI]
    o VAD-Implant Unique Device Identifier (UDI) #2 [VImpUDI2]
    o VAD-Implant Unique Device Identifier (UDI) #3 [VImpUDI3]
    o Other Card-Atrial Appendage Ligation/Exclusion UDI [OCarAAUDI]
- The following demographic data fields can be imported from an Admission/Discharge/Transfer (ADT) system:

LongName	ShortName
Patient Last Name	PatLName
Patient First Name	PatFName
Patient Middle Name	PatMName
Date of Birth	DOB
Patient Age	Age
Sex	Gender
National Identification (Social Security Number) Known	SSNKnown
National Identification (Social Security Number)	SSN
Medical Record Number	MedRecN
Patient's Street Address	PatAddr
Patient's City	PatCity

LongName	ShortName
Patient's Region	PatRegion
Patient's ZIP Code	PatZIP
Patient's Country	PatientCountry
Race Documented (Note, race can only be imported if the original data allows for selecting more than one race)	RaceDocumented
Race - White	RaceCaucasian
Race - Black / African American	RaceBlack
Race - Asian	RaceAsian
Race - American Indian / Alaskan Native	RaceNativeAm
Race - Native Hawaiian / Pacific Islander	RacNativePacific
Race - Other	RaceOther
Hispanic or Latino or Spanish Ethnicity	Ethnicity
Date of Discharge	DischDt
Mort-Date	MtDate

5. Field dependencies

Field dependencies exist where one field (the "parent" field) controls whether or not one or more other fields (the "child" fields) can contain data. Child fields are indicated in the specifications by having their immediate parent field named in the "Parent Field" section of their specification. For example, "RF-Cerebrovascular Dis " is a parent field to its child " RF-Prior CVA". The following guidelines must be followed to handle dependent fields:

a. If the data value of a parent field indicates that no data should be in its dependent fields, then those dependent fields should be skipped or unavailable on the data entry screen. In the example above, only if "RF-Cerebrovascular Dis" = "Yes" should "RF-Prior CVA" be available for data entry.
b. If a parent field contains a "No" value, vendors can choose one of two methods for handling the values in the associated child fields:

1. set all child field values to Null, or
2. set child field values to "No" as is appropriate.

Note that the STS highly recommends following the first method of setting all child fields to Null.

If a vendor chooses the second method, then they must also program their software so that, if the user later changes the parent value to Yes, all of the child fields are reset to Null.

Vendors must keep in mind that the first method is required in the export file created for submission to the data warehouse. In other words, regardless of what is in the user's database, the export file must contain Nulls in child fields when the parent is No.

Also, vendors must notify the STS and the data warehouse if their software will insert No values into child fields when the parent is No. This will allow the warehouse to know that the data received by a site during a data harvest will not look exactly like what the user has in their database.

c. If a parent field is originally set to "Yes", then values can be entered into its child fields. If the record is subsequently edited by the user and the parent value is changed to "No", the values in the child fields must be automatically changed to Null or No depending on the method being used by the vendor as described above. This will avoid the possibility of conflicting information being left in the data record (for example "RF-Cerebrovascular Dis"is "No" but "RF-Prior CVA" is "Yes").

d. Reporting on missing data values needs to be handled differently in dependent (child) fields, since its meaning depends upon the data value of the parent field. See "Data quality and completeness checks" below for a full description of how this should be handled.

6. Data quality and completeness checks

The software must provide the users with a utility for checking the accuracy and completeness of their data that includes the following features:

Data quality checks can be run during data entry and/or on demand for groups of records as specified by the user. This utility produces a data quality report indicating which records and fields failed the data checks. This report is used by the site data manager to review and potentially repair the data.

a. Certified software must contain a utility for checking and reporting on data completeness. This utility must include the following features:

i) The user must be able to identify in a list the fields that they want to have checked for completeness. The user should be able to select just one field, all fields, or any number of fields desired (by default, the utility should report on ALL fields). It is recommended that user should be able to save the selected list so as not to have to go through the selection process again the next time data quality is being checked.

ii) The utility should report on individual records or groups of records (recommend grouping by surgery date range) as specified by the user.

iii) The utility must take into consideration dependent fields when checking for completeness. For fields defined as "child" fields of a "parent" field, the child is considered missing only if the parent is answered "Yes" (or in a way that would allow the user to enter data into the child field) and the child field contains no data. Following this guideline will restrict reporting missing data to only those situations where data is clinically expected.

b. In some cases, specific fields can be group together to be examined for completeness and reported as one group instead of reporting on each individual field. This can be done in cases where the group of fields are clinically related to each other and the user is likely to enter values for only one of the fields. The following table defines the field groupings for data version 2.9:

Report this Group missing:	When this condition is met:
Race	(RaceDocumented = Yes) AND (RaceCaucasian = No or is missing) AND (RaceBlack = No or is missing) AND (RaceAsian = No or is missing) AND (RaceNativeAm = No or is missing) AND (RacNativePacific = No or is missing) AND (RaceOther = No or is missing)
Native Artery % Stenosis	PctStenKnown = Yes AND PctStenLMain is missing AND PctStenProxLAD is missing AND PctStenMidLAD is missing AND PctStenDistLAD is missing AND PctStenDiag1 is missing AND PctStenDiag2 is missing AND PctStenDiag3 is missing AND PctStenCircflx is missing AND PctStenOM1 is missing AND PctStenOM2 is missing AND PctStenOM3 is missing AND PctStenRamus is missing AND PctStenRCA is missing AND PctStenAM is missing AND PctStenPDA is missing AND PctStenPLB is missing
Graft % Stenosis	GraftsPrsnt = Yes AND GrftStenLMain is missing AND GrftStenProxLAD is missing AND GrftStenMidLAD is missing AND GrftStenDistLAD is missing AND GrftStenDiag1 is missing AND GrftStenDiag2 is missing AND

	GrftStenDiag3 is missing AND GrftStenCircflx is missing AND GrftStenOM1 is missing AND GrftStenOM2 is missing AND GrftStenOM3 is missing AND GrftStenRamus is missing AND GrftStenRCA is missing AND GrftStenAM is missing AND GrftStenPDA is missing AND GrftStenPLB is missing
Stent % Stenosis	StentPrsnt = Yes AND StntStenLMain is missing AND StntStenProxLAD is missing AND StntStenMidLAD is missing AND StntStenDistLAD is missing AND StntStenDiag1 is missing AND StntStenDiag2 is missing AND StntStenDiag3 is missing AND StntStenCircflx is missing AND StntStenOM1 is missing AND StntStenOM2 is missing AND StntStenOM3 is missing AND StntStenRamus is missing AND StntStenRCA is missing AND StntStenAM is missing AND StntStenPDA is missing AND StntStenPLB is missing
Fractional Flow Reserve (FFR)	FFRPerf = Yes AND FFRLMain is missing AND FFRProxLAD is missing AND FFRMidLAD is missing AND FFRDistLAD is missing AND FFRDiag1 is missing AND FFRDiag2 is missing AND FFRDiag3 is missing AND FFRCircflx is missing AND FFROM1 is missing AND FFROM2 is missing AND FFROM3 is missing AND FFRRamus is missing AND FFRRCA is missing AND FFRAM is missing AND FFRPDA is missing AND FFRPLB is missing
Instantaneous wave-free ratio (iFR)	IFRPerf = Yes AND IFRLMain is missing AND

	IFRProxLAD is missing AND IFRMidLAD is missing AND IFRDistLAD is missing AND IFRDiag1 is missing AND IFRDiag2 is missing AND IFRDiag3 is missing AND IFRCircflx is missing AND IFROM1 is missing AND IFROM2 is missing AND IFROM3 is missing AND IFRRamus is missing AND IFRRCA is missing AND IFRAM is missing AND IFRPDA is missing AND IFRPLB is missing
Aortic Valve Repair Type	(VSAVPr = Repair/reconstruction) AND (VSAVRComA = No or is missing) AND (VSAVRExSutAn = No or is missing) AND (VSAVRLPlic = No or is missing) AND (VSAVRNodRel = No or is missing) AND (VSAVRPTFE = No or is missing) AND (VSAVRComRS = No or is missing) AND (VSAVRRaphe = No or is missing) AND (VSAVRRingA = No or is missing) AND (VSAVRLResect = No or is missing) AND (VSAVRLeafShav = No or is missing) AND (VSAVRLPPatch = No or is missing) AND (VSAVRDeb = No or is missing) AND (VSAVRPeriLeak = No or is missing)
Prior Aortic Repair Location	(PriorAorta = Yes) AND (PriorRepRoot = No or is missing) AND (PriorRepAsc = No or is missing) AND (PriorRepArch = No or is missing) AND (PriorRepDesc = No or is missing) AND (PriorRepSupraAb = No or is missing) AND (PriorRepInfraAb = No or is missing)
Prior Aortic Repair Type	PriorAorta = Yes AND PriorRepTyRoot is missing AND PriorRepTyAsc is missing AND PriorRepTyArch is missing AND PriorRepTyDesc is missing AND PriorRepTySupraAb is missing AND PriorRepTyInfraAb is missing
Prior Aortic Repair Failure	PriorAorta = Yes AND PriorFailRoot is missing AND PriorFailAsc is missing AND

	PriorFailArch is missing AND PriorFailDesc is missing AND PriorFailSupraAb is missing AND PriorFailInfraAb is missing
Prior Aortic disease Progression	PriorAorta = Yes AND PriorProgRoot is missing AND PriorProgAsc is missing AND PriorProgArch is missing AND PriorProgDesc is missing AND PriorProgSupraAb is missing AND PriorProgInfraAb is missing
Aortic Disection Malperfusion	(DisMal = Yes) AND (DisMalCor = No or is missing) AND (DisMalRtSubclav = No or is missing) AND (DisMalRtComCar = No or is missing) AND (DisMalComL = No or is missing) AND (DisMalSubL = No or is missing) AND (DisMalCel = No or is missing) AND (DisMalSup = No or is missing) AND (DisMalRenL = No or is missing) AND (DisMalRenR = No or is missing) AND (DisMalIllio = No or is missing) AND (DisMalSpin = No or is missing)
Aortic 3-D Reconstruction Measurements	Diameter3Dmeas = Yes AND Diam3DAnnulus is missing AND Diam3DSinus is missing AND Diam3DSinotubular is missing AND Diam3DMidAsc is missing AND Diam3DDistalAsc is missing AND Diam3DZone1 is missing AND Diam3DZone2 is missing AND Diam3DZone3 is missing AND Diam3DZone4 is missing AND Diam3DZone5 is missing AND Diam3DZone6 is missing AND Diam3DZone7 is missing AND Diam3DZone8 is missing AND Diam3DZone9 is missing AND Diam3DZone10 is missing AND Diam3DZone11 is missing
Aortic Largest Pre-operative Diameter	(AortProc = "Yes, planned", "Yes, unplanned due to surgical complication" or "Yes, unplanned due to unsuspected disease or anatomy") AND DiamLgstAnnulus is missing AND DiamLgstSinus is missing AND DiamLgstSinotubular is missing AND

	DiamLgstMidAsc is missing AND DiamLgstDistalAsc is missing AND DiamLgstZone1 is missing AND DiamLgstZone2 is missing AND DiamLgstZone3 is missing AND DiamLgstZone4 is missing AND DiamLgstZone5 is missing AND DiamLgstZone6 is missing AND DiamLgstZone7 is missing AND DiamLgstZone8 is missing AND DiamLgstZone9 is missing AND DiamLgstZone10 is missing AND DiamLgstZone11 is missing

7. Data Import

   a. Software must be able to import data in standard file formats from third party applications. At a minimum, this must include delimited, ASCII text files. Other common formats (e.g. Excel or MS Access) are also recommended. This functionality is to only be used on a one-time basis. For example, this utility should only be used when a user first purchases a new certified software package and wants to import the data they had been collecting up to that time in a different package. Once the old data has been imported into the new package, all future data should be entered directly into the new package via the data entry screens and no additional data should be imported. Using the import feature to regularly import data so that it can be exported in the STS format for submission to the Data Warehouse is strictly against the STS policies.

   b. Data that is imported will require controlled conversion to an acceptable STS data version. The conversion process must include reviewing the data for consistency with the STS data (i.e. mapping the categorical values in the imported data to the appropriate STS values). The site data manager and software vendor hold responsibility for the accuracy (both clinical definition and harvest format) of all imported data harvested to the warehouse. The software will assign to each imported record the STS data version number to which the data is converted. The data version to which the data is converted must be appropriate for the date of surgery for that record. The warehouse will handle data according to the STS data version number on each observation in a harvest file regardless of whether it was created in the software's data entry utility or imported from another source.

   c. Special consideration is needed for the values in the RecordID field when importing data. This is especially true when importing data that was previously submitted to the data warehouse (i.e. data from another certified software

package). RecordID values must never change once they are assigned to a record. The software developers and data managers must ensure that the values in the imported data do not change in the conversion process, and that they do not cause duplication of values with any existing records. Developers must also ensure that new records created after the data has been imported are not assigned RecordID values that already exist in the data. If data is to be imported that would cause a conflict in this manner, the software developer must contact the Data Warehouse to determine what steps need to be taken.

8. Record subsets and queries

Software must allow users to search for Individual records selected by RecordID or by patient identifiers including patient name and surgery date. Users should also be able to construct more general queries including field selection, record selection, sorting, and summarizing. It is acceptable if this function is provided by a third party application (e.g. MS Access or Crystal Reports).

9. Reporting

Software should provide the users with reporting abilities that can do the following:

a. View and print a data completeness report listing the records having missing fields and which fields are missing from each record.

b. Build, save, copy, and modify more general reports with capability to select fields, record subsets, sorting, and summary statistics. (It is acceptable if this function is provided by a third party application, such as MS Access or Crystal Reports).

c. Data harvest procedure provides the site with a report documenting the following:
    1. whether or not the extract completed successfully
    2. number of records extracted
    3. time frame of the data extract (by date of surgery)
    4. date the data extraction was performed
    5. name of the person who performed the data extraction

10. Data export for analysis by users

The software must allow users to export their data for their own use in the following manner:

a. Software must be able to export data in standard file formats suitable for transfer into third party applications. This must include at a minimum bar-delimited,

ASCII text, and optionally other common formats such as Excel and Access. Developers should keep in mind that sites may need to export their data for reasons other than the STS data harvests.

b. User should be able to choose whether an export includes all data or selected records and fields. Users must be able to select any field in their database including custom fields and other non-STS fields.

c. If data is coded for internal storage (e.g. text string is stored as a number), the data must be able to be decoded when written to the export file so that actual values (e.g. full text strings) are contained in export file. The user can decide which format should be used for each export file.

d. Export files must identify the data fields using field names (i.e., the STS ShortName or LongName) that are familiar to the users.

e. User can control export file naming convention.

11. Data export for harvest to the data warehouse

As one of the key reasons for having certified software, the software must allow users to export their data for submission to the STS data warehouse following these exact guidelines:

a. The user must be able to specify the records to be exported for harvest by using range limits for the surgery date.

b. The Data Harvest file exported must adhere to this specific format:
   1. File is an ASCII text file with vertical bar delimiters
   2. The first row is a "header" record containing the STS short field names in the same sequence as the data fields in subsequent rows
   3. Each subsequent row represents one data record describing one surgical case

c. Only a single harvest file for each participant can be submitted to the warehouse for processing. Participants may submit repeatedly during a harvest, but each submission is only one file.

d. The extracted file must contain data for only one participant ID (ParticID) value. If the site's database contains data for more than one participant, all of which is to be submitted to the warehouse, the software must extract the data for each ParticID into separate data files each with an appropriate file name (see below).

e. The harvest file must include all fields, and only those fields, defined in the data specifications with Core = "Yes" and Harvest = "Yes" or "Optional" for all STS

data versions within the harvest file. In other words, a file containing v2.81 and v2.9 records would contain all fields where Core is "Yes" and Harvest is "Yes" or "Optional" for either version of the specifications (more information on submitting data from multiple data versions is given below). Fields with Core="No" or Harvest="No" and site-specific or custom fields must not be included in the export file.

f. Fields that are defined as Core = Yes and Harvest = Optional must be included in the data file. What is "optional" is whether or not the field contains data. By default, the software should include all data for optional fields. If the user specifies that an optional field should not be included, the data file will include the field but every record will contain a blank (null) in that field. This is necessary for the warehouse to be able to tell the difference between a field being left out by mistake and a site opting not to include that data.

g. The values in the harvest file must be the "Harvest Coding" of the data values and not the full text strings.

h. A harvest report should be produced whenever a data harvest is performed (see "Reporting", above).

i. The software must create the exported data file using the file naming convention of XXXXXadt.dat where "XXXXX" is the 5-digit ParticID for the data contained in the file. The users should not specify the file naming convention. Files not using this naming convention can not be accepted by the automated process at the data warehouse and may be returned to the participant.

When records from more than one data version are being exported for an STS data harvest, the file must adhere to the following format:

j. The first record of the file must be the one and only "header" record containing the STS short field names in the same sequence as the data fields in subsequent rows.

k. Every data record in the file must contain the same fields which will consist of a superset of the Core, Harvested fields from all included data versions.

l. On each data record, the fields that are Core and Harvested for the data version specified in the DataVrsn field will contain data values as available and appropriate. The fields that are not Core or not Harvested for that data version will contain nulls (blanks). When the data is being processed by the warehouse, only the fields appropriate for the data version specified on the record will be included.

For an example of a data file containing more than one data version, consider a data file being submitted with records having data versions 2.81 and 2.9. The software

will produce one data file with one header record that will identify all of the Core / Harvested fields for both versions, including "Patient Age" (Age), "Payor - Government Health Insurance" (PayorGov), and "Hospital CMS Certification Number" (HospCMSCert). The Age field is Core to both 2.81 and 2.9. PayorGov is Core for 2.81 but is not Core in 2.9. HospCMSCert didn't exist in 2.81 but is a Core field in 2.9. A data record in the extracted file that has a DataVrsn value of 2.81 should contain a value in Age and PayorGov, but would contain a null in HospCMSCert. A data record that has a DataVrsn value of 2.9 should contain a value in Age and HospCMSCert, but would contain a null in PayorGov.

12. Customization

It is up to the developer's discretion as to whether or not the users will have the ability to add customized fields to their software and database. If the user will have this ability, the following items must be considered:

   a. In no case can the field names, short field names, or categorical data values specified by the STS be customized or modified by the users. (Please note however in the STS specifications that users can build the categorical data values for certain fields such as Hospital Name, see "Data entry", above.)

   b. Fields added by users must not be included in the data file exported for submission to the STS data warehouse.

   c. Developers should make clear to the potential users whether users can add custom fields themselves, or if they will require contracted work by the developer.

   d. It should be possible for users of customizable software to import custom fields that they might have created in a previous database or software package.

   e. Most importantly, developers who allow users to add customized fields must keep in mind that software upgrades will be necessary from time to time as new versions of the data specifications become available. These changes include adding new fields, discontinuing fields, and moving fields to a new location. It is the developer's responsibility to handle how a user's customization is incorporated when their software is being upgraded.

13. Combining collection of STS and non-STS database fields

Developers who design their software to collect data for more than just the STS Adult Cardiac database must not combine fields from other databases with the STS fields unless it is explicitly stated by the STS that the fields are the same in definition and coding. Contact the STS to determine what, if any non-STS fields can be mapped in this manner.

14. On-demand updates

   Starting with v2.61, certified software was required to have the ability to load updated values to be used in two areas:
   a. Valve explant and implant prosthesis fields (Valve Explant Device, Second Valve Explant Device, VS-Aortic Proc-Implant Model Number, VS-Mitral Proc-Implant Model Number, VS-Tricuspid Proc-Implant Model Number, VS-Pulmonic Proc-Implant Model Number).
   b. VAD device fields (Previous VAD Device Model Number, VAD-Device, VAD-Device #2, VAD-Device #3)

   The Data Warehouse will provide data files that will contain the information needed for each area which will be in a bar-delimited ASCII text format. Each set of information will be assigned a version number by the Data Warehouse. Updated versions of these files will be made available annually.

   Software should be designed to be able to load these updates so that they can be used by the users during the data entry process. This will allow newly available devices to be valid choices for the users without having to wait for a full specification and software upgrade.

   It is important for the Data Warehouse to know what version of the on-demand files was in place when a user created a record or made subsequent updates to a record. When v2.61 was released, this was handled with a field on the data record for each area where the on-demand files applied: "Valve Implant List Version Number" (ValveVrsn) for the valve device fields and "VAD Product Type List Version Number" (VADListVrsn) for the VAD device fields. Since all of the on-demand files will always be updated at the same time, starting with v2.73, these two fields were dropped and one new field named "On-Demand Files Version Number" (OnDemandVrsn) was added in their place. For records with DataVrsn 2.73 or later, this one field will be used to identify the version of all on-demand files in use for that record.

   Unlike the DataVrsn field, the On-Demand version numbers can be updated after a record has been created. For example, when a record is first created and a valve prosthesis device is indicated, the OnDemandVrsn field will identify the version of the on-demand file in use at that time. If, at some time later, updated versions of the on-demand files are loaded into the system and then this record is edited by the user, the OnDemandVrsn value should be updated to indicate the newer version of the device list was available to the user.

Appendix A: Calculation of MELD scores:

Starting with version 2.73, software must be able to calculate the MELD score for each patient. The results from this calculation are entered by the software into the field RF-MELD Score (MELDScr). The value of this score is calculated using the values entered by the user into the three fields "RF-Total Bilirubin" (TotBlrbn), "RF-INR" (INR), and "RF-Last Creat Level" (CreatLst). The patient's dialysis status (RF-Renal Fail-Dialysis) is also considered in the calculation.

The calculation can be made by creating a "factor" for each of the three variables involved in the score. The value of the variable is used to determine the value of the factor. The factors are then used in a formula to determine the MELD score. The algorithm for determining the value of each factor is as follows:

If RF-Total Bilirubin is >0 and <=1 then bilirubin_factor = 1
otherwise, if RF-Total Bilirubin is >1, then bilirubin_factor = the specified RF-Total Bilirubin value.

If RF-INR is >0 and <=1 then inr_factor = 1
otherwise, if RF-INR is > 1, then inr_factor = the specified RF-INR value.

if RF-Renal Fail-Dialysis=Yes, then creatinine_factor = 4
otherwise, if RF-Last Creat Level is >0 and <=1 then creatinine_factor = 1
    otherwise, if RF-Last Creat Level is >1 and <=4, then creatinine_factor = the RF-Last Creat Level value
        otherwise, if RF-Last Creat Level is >4, then creatinine_factor = 4

After determining the three factors, the calculation is done using the formula:

MELDScr = (3.8 x Ln([bilirubin_factor])) + (11.2 x Ln([inr_factor])) + (9.6 x Ln([creatinine_factor])) + 6.4

Note that "Ln" refers to the mathematical "natural log" function.

No score should be calculated if any of the following conditions are true:
- RF-Total Bilirubin is missing
- RF-INR is missing
- Last Creat Level is missing and RF-Renal Fail-Dialysis = No or is missing

Most patients will have a score between 0 and 60, but some scores can be negative.

Appendix B: Calculation of Total Postoperative Ventilation Hours

Starting with v2.81, software must be able to calculate the value for the field "Total Postoperative Ventilation Hours" (VentHrsTot). Note that this calculation changed slightly for v2.9. This calculation uses the following fields:

- OR Exit Date And Time (ORExitDT)
- Initial Intubation Date And Time (IntubateDT)
- Initial Extubation Date and Time (ExtubateDT)
- Additional Hours Ventilated (VentHrsA)

The calculation for the total ventilation hours is performed by calculating the number of hours between ORExitDT and ExtubateDT and adding the number of additional hours specified in VentHrsA. The equation for calculating Total Postoperative Ventilation Hours must take the following into consideration:

- If IntubateDT, ORExitDT or ExtubateDT are missing, VentHrsTot is left missing (regardless of whether or not there is a value in VentHrsA)
- ~~The difference between ORExitDT and ExtubateDT must be rounded to the nearest hour (less than ½ hour rounds down, ½ hour or more rounds up).~~
- The difference between ORExitDT and ExtubateDT should no longer be rounded.
- If VentHrsA has no value, then VentHrsTot must be just the ~~rounded~~ difference between ORExitDT and ExtubateDT.
- If ExtubOR = Yes, or the difference between ORExitDT and ExtubateDT results in a negative number (i.e., the patient was extubated before leaving the OR), then zero should be used for this part of the calculation and added to any additional hours (VentHrsA) to generate the total postoperative hours.
- If IntubateDT is after ORExitDT (i.e., the patient was first intubated after leaving the OR), then zero should be used for this part of the calculation and added to any additional hours (VentHrsA) to generate the total postoperative hours.
- Final calculation should include at least two decimal places.

Appendix C: Calculation of Total Circulatory Arrest Time

Starting with v2.81, software must be able to calculate the value for the field "Total Circulatory Arrest Time" (TotCircArrTm). This calculation uses the following fields:

- Circulatory Arrest Time Without Cerebral Perfusion (DHCATm)
- Cerebral Perfusion Time (CPerfTime)

The calculation for the total circulatory arrest time is performed by adding DHCATm and CPerfTime. The equation for calculating Total Circulatory Arrest Time must take the following into consideration:

- If DHCATm has no value, TotCircArrTm is set to missing, regardless of whether there is a value in CPerfTime.
- CPerfTime might not have a value because the field Circulatory Arrest With Cerebral Perfsuion (CPerfUtil) is No. CPerfTime might also not have a value, even if (CPerfUtil) is Yes.   In either of these cases, TotCircArrTm would be set to the value in DHCATm.

Appendix D: Field ShortName and SeqNo by DataVrsn.

The following table lists all fields that have been collected in the STS Adult CV Database since 1999. The sequence number (SeqNo) of each field for a given version of the specifications is specified under the version number. If no sequence number is specified, the field was not a Core field for that version of the specifications.

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VendorID	10	10	10	10	10	5	5
SoftVrsn	20	20	20	20	20	10	10
DataVrsn	30	30	30	30	30	15	15
OnDemandVrsn					31	20	20
ParticID	40	40	40	40	40	25	25
RecordID	50	50	50	50	50	30	30
CostLink		52	60	60	60	35	35
PatID	60	60	80	80	80	40	40
ClinTrial						45	45
ClinTrialPatID						46	46
PatLName				100	90	50	50
PatFName				110	100	55	55
PatMName					120	60	60
DOB	110	110	130	130	130	65	65
Age	120	120	140	140	140	70	70
Gender	130	130	150	150	150	75	75
SSNKnown							76
SSN				160	160	80	80
MedRecN				170	170	85	85
PatAddr					180	90	90
PatCity					190	95	95
PatRegion					200	100	100
PatZIP	190	190	180	180	210	105	105
PatientCountry						115	115
PermAddr					230	120	120
RaceDocumented						150	150
RaceCaucasian				191	290	155	155
RaceBlack				192	300	160	160
RaceAsian				193	310	165	165
RaceNativeAm				194	320	170	170
RacNativePacific				195	330	175	175

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
RaceOther				196	340	180	180
Ethnicity				199	350	185	185
HospName	280	280	220	220	380	205	205
HospZIP	282	282	230	230	390	210	210
HospStat	284	284	240	240	400	215	215
HospNPI				241	410	220	220
HospCMSCert							221
PayorPrim							291
PrimMCareFFS							292
PayorSecond							293
SecondMCareFFS							294
AdmitDt	320	320	260	260	570	305	305
SurgDt	330	330	270	270	610	310	310
AdmitSrc					580	320	320
OthHosCS					590	325	325
HeightCm	420	420	360	360	640	330	330
WeightKg	400	400	350	350	630	335	335
FHCAD	470	470	390	390	670	355	355
Diabetes	480	480	400	400	780	360	360
DiabCtrl	490	490	410	410	790	365	365
Dyslip				421	800	370	370
Dialysis	560	560	450	450	810	375	375
Hypertn	570	570	460	460	820	380	380
InfEndo	610	610	490	490	830	385	385
InfEndTy	620	620	500	500	840	390	390
InfEndCult					850	395	395
TobaccoUse						400	400
ChrLungD	660	660	510	510	860	405	405
ChrLungDType						410	410
PFT					880	415	415
FEV1					890	420	420
DLCO					892	425	425
DLCOPred					893	430	430
ABG					900	435	435
PCO2					920	440	440
PO2					910	445	445
HmO2					930	450	450
BDTx					940	455	455

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
SlpApn					950	460	460
Pneumonia					1140	465	465
IVDrugAb					1130	470	470
Depression						475	475
Alcohol					1131	480	480
LiverDis					960	485	485
LiverChildPugh							486
LiverTransList							487
LiverStatusPost							488
ImmSupp	670	670	520	520	970	490	490
MediastRad					1150	495	495
Cancer					1160	500	500
PVD	680	680	530	530	980	505	505
ThAoDisease						510	510
Syncope					1001	515	515
UnrespStat					1000	520	520
ChestWallDef							521
CVD	690	690	540	540	1010	525	525
CVA	590	590	470	552	1020	530	530
CVAWhen	600	600	480	553	1030	535	535
CVDTIA				555	1050	540	540
CVDCarSten					1070	545	545
CVDStenRt					1071	550	550
CVDStenLft					1072	555	555
CVDPCarSurg				557	1080	560	560
WBC				392	690	565	565
RFHemoglobin						570	570
Hct				391	680	575	575
Platelets					700	580	580
CreatLst	550	525	430	430	750	585	585
TotAlbumin					730	590	590
TotBlrbn					720	595	595
A1cLvl				412	740	600	600
HITAnti					711	605	605
INR					710	610	610
MELDScr					815	615	615
BNP						620	620
FiveMWalkTest					1161	645	645

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
FiveMWalk1					1170	650	650
FiveMWalk2					1180	655	655
FiveMWalk3					1190	660	660
SixMWalkDone							661
SixMWalkDist							662
PrCVInt	710	710	570	570	1200	665	665
PrCAB	760	760	600	600	1215	670	670
PrValve	770	770	610	610	1216	675	675
PrValveProc1						695	695
PrValveProc2						700	700
PrValveProc3						705	705
PrValveProc4						710	710
PrValveProc5						715	715
POCPCI			660	660	1480	775	775
POCPCIWhen					1481	780	780
POCPCIndSurg					1490	785	785
POCPCISt				661	1500	790	790
POCPCIStTy				663	1510	795	795
POCPCIIn			670	670	1520	800	800
POC						805	805
POCInt1						810	810
POCInt2						815	815
POCInt3						820	820
POCInt4						825	825
POCInt5						830	830
POCInt6						835	835
POCInt7						840	840
PrevMI				751	1540	885	885
MIWhen	1360	1360	760	760	1550	890	890
CardSympTimeOfAdm						895	895
CardSympTimeOfSurg						900	900
HeartFail							911
HeartFailTmg							912
HeartFailType							913
ClassNYH	1540	1540	870	775	1585	915	915
CarShock	1420	1420	810	810	1620	930	930
Resusc	1440	1440	830	830	1630	935	935
Arrhythmia						945	945

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
ArrhythPPaced						975	947
ArrhythVV						950	950
ArrhythSSS						955	955
ArrhythAFlutter						960	960
ArrhythAtrFib							961
ArrhythAFib						980	962
ArrhythSecond						965	965
ArrhythThird						970	970
MedACEI48					1730	1020	1020
MedAmiodarone						1035	1025
MedBeta	1650	1650	890	890	1710	1060	1030
MedBetaTher						1065	1035
MedCChanTher						1070	1040
MedLongActNit						1110	1045
MedNitIV	1690	1690	910	910	1740	1115	1050
MedOthAntiang						1120	1055
MedADP5Days				1021	1850	1025	1060
MedADPIDis				1022	1860	1030	1065
MedASA	1760	1760	990	990	1820	1055	1070
MedASADis							1071
MedASAOnce							1072
MedGP			1030	1030	1880	1085	1073
MedACoag	1720	1720	930	930	1750	1040	1075
MedACMN			940	940	1760	1045	1080
MedCoum5Days							1091
MedCoum5Dis							1092
MedXa5Days							1101
MedXa5DDis							1102
MedNOAC5Days							1111
MedNOACDisc							1112
MedThromIn5Days							1121
MedThromInDisc							1122
MedThrom					1900	1140	1125
MedInotr	1740	1740	970	970	1790	1095	1130
MedLipid			1000	1000	1830	1100	1135
MedLipType							1141
MedSter	1750	1750	980	980	1800	1130	1143
CarCathPer					1910	1145	1145

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CarCathDt					1920	1150	1150
CorAnatDisKnown						1155	1155
Dominance						1160	1160
StenSource						1165	1165
NumDisV	1820	1820	1050	1050	1930	1170	1170
PctStenKnown						1175	1175
GraftsPrsnt						1180	1180
StentPrsnt						1185	1185
FFRPerf						1190	1190
IFRPerf							1191
PctStenLMain						1195	1195
GrftStenLMain						1200	1200
StntStenLMain						1205	1205
FFRLMain						1210	1210
IFRLMain							1212
PctStenProxLAD						1215	1215
GrftStenProxLAD						1220	1220
StntStenProxLAD						1225	1225
FFRProxLAD						1230	1230
IFRProxLAD							1232
PctStenMidLAD						1235	1235
GrftStenMidLAD						1240	1240
StntStenMidLAD						1245	1245
FFRMidLAD						1250	1250
IFRMidLAD							1252
PctStenDistLAD						1255	1255
GrftStenDistLAD						1260	1260
StntStenDistLAD						1265	1265
FFRDistLAD						1270	1270
IFRDistLAD							1272
PctStenDiag1						1275	1275
GrftStenDiag1						1280	1280
StntStenDiag1						1285	1285
FFRDiag1						1290	1290
IFRDiag1							1292
PctStenDiag2						1295	1295
GrftStenDiag2						1300	1300
StntStenDiag2						1305	1305

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
FFRDiag2						1310	1310
IFRDiag2							1312
PctStenDiag3						1315	1315
GrftStenDiag3						1320	1320
StntStenDiag3						1325	1325
FFRDiag3						1330	1330
IFRDiag3							1332
PctStenCircflx						1335	1335
GrftStenCircflx						1340	1340
StntStenCircflx						1345	1345
FFRCircflx						1350	1350
IFRCircflx							1352
PctStenOM1						1355	1355
GrftStenOM1						1360	1360
StntStenOM1						1365	1365
FFROM1						1370	1370
IFROM1							1372
PctStenOM2						1375	1375
GrftStenOM2						1380	1380
StntStenOM2						1385	1385
FFROM2						1390	1390
IFROM2							1392
PctStenOM3						1395	1395
GrftStenOM3						1400	1400
StntStenOM3						1405	1405
FFROM3						1410	1410
IFROM3							1412
PctStenRamus						1415	1415
GrftStenRamus						1420	1420
StntStenRamus						1425	1425
FFRRamus						1430	1430
IFRRamus							1432
PctStenRCA						1435	1435
GrftStenRCA						1440	1440
StntStenRCA						1445	1445
FFRRCA						1450	1450
IFRRCA							1452
PctStenAM						1455	1455

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
GrftStenAM						1460	1460
StntStenAM						1465	1465
FFRAM						1470	1470
IFRAM							1472
PctStenPDA						1475	1475
GrftStenPDA						1480	1480
StntStenPDA						1485	1485
FFRPDA						1490	1490
IFRPDA							1492
PctStenPLB						1495	1495
GrftStenPLB						1500	1500
StntStenPLB						1505	1505
FFRPLB						1510	1510
IFRPLB							1512
SyntaxScrKnown						1515	1515
SyntaxScr						1520	1520
StressTst						1525	1525
StrsTstRes							1531
HDEFD		1858	1070	1070	1950	1540	1540
HDEF	1860	1860	1080	1080	1960	1545	1545
DimAvail						1555	1555
LVSD					1980	1560	1560
LVEDD					1990	1565	1565
PASYSMeas					2020	1570	1570
PASYS					2030	1575	1575
VDInsufA	2050	2050	1170	1170	2155	1590	1590
VDAVEccJet							1591
VDAort					2040	1595	1595
VDStenA	2010	2010	1120	1120	2152	1600	1600
AoHemoDatAvail						1605	1605
VDAoVA					2153	1610	1610
VDGradA		2015	1130	1130	2154	1615	1615
VDVMax							1616
VDAoPrimEt							1646
VDAoSievers							1647
VDInsufM	2060	2060	1180	1180	2270	1680	1680
VDMVEccJet							1681
VDMit					2160	1685	1685

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VDStenM	2020	2020	1140	1140	2240	1690	1690
MiHemoDatAvail						1695	1695
VDMVA					2250	1700	1700
VDGradM					2260	1705	1705
VDMiPrimEt							1731
VDMiPrimLes							1746
VDInsufT	2070	2070	1190	1190	2320	1775	1775
VDTrAnnMeas						1790	1777
VDTrAnnSize						1795	1778
VDTr					2280	1780	1780
VDStenT	2030	2030	1150	1150	2300	1785	1785
VDTrPrimEt							1811
VDInsufP	2080	2080	1200	1200	2340	1820	1820
VDPulm					2321	1825	1825
RVEDDKnown						1830	1830
RVEDD						1835	1835
VDStenP	2040	2040	1160	1160	2330	1840	1840
PuHemoDatAvail						1845	1845
VDGradP						1850	1850
VDPuEt						1855	1855
Surgeon	2230	2230	1210	1210	2350	1955	1955
SurgNPI				1221	2360	1960	1960
TIN				1222	2370	1965	1965
RiskDiscussed							1966
Incidenc			560	1230	2380	1970	1970
Status	2300	2300	1240	1240	2390	1975	1975
UrgEmergRsn						1990	1990
PCancCase					2415	1995	1995
PCancCaseDt					2416	2000	2000
PCancCaseTmg					2417	2005	2005
PCancCaseRsn					2418	2010	2010
PCancCaseCAB					2419	2015	2015
PCancCaseMech					2421	2020	2020
PCancCaseONC					2423	2025	2025
PCancCaseValSur						2030	2030
PCancCaseValTrans						2035	2035
PCancCaseOC					2422	2040	2040
CCancCase					2424	2050	2050

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CCancCaseTmg					2425	2055	2055
CCancCaseRsn					2426	2060	2060
CCancCaseCAB					2427	2065	2065
CCancCaseMech					2429	2075	2075
CCancCaseONC					2431	2080	2080
CCancCaseValSur						2085	2085
CCancCaseValTrans						2090	2090
CCancCaseOC					2430	2095	2095
OPApp					2435	2100	2100
ApproachCon						2105	2105
Robotic			1270	1270	2436	2110	2110
RobotTim						2115	2115
OpCAB	2340	2340	1280	1280	2437	2120	2120
OpValve			1290	1290	2440	2125	2125
OpValSurgInput							2126
AortProc						2150	2128
AortProcSurgInput							2129
OpOCard	2510	2510	1310	1310	2490	2140	2140
AFibProc						2145	2145
AFibProcSurgInput							2146
OpONCard	2520	2520	1320	1320	2500	2155	2155
CPT1Code1				1321	2510	2195	2195
CPT1Code2				1322	2520	2200	2200
CPT1Code3				1323	2530	2205	2205
CPT1Code4				1324	2540	2210	2210
CPT1Code5				1325	2550	2215	2215
CPT1Code6				1326	2560	2220	2220
CPT1Code7				1327	2570	2225	2225
CPT1Code8				1328	2580	2230	2230
CPT1Code9				1329	2590	2235	2235
CPT1Code10				1330	2600	2240	2240
OREntryDT				1335	2610	2245	2245
ORExitDT				1336	2620	2250	2250
GenAnes							2251
ProcSed							2252
Intubate							2253
IntubateDT				1337	2670	2255	2255
ExtubateDT				1338	2680	2260	2260

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
SIStartDT				1341	2690	2265	2265
SIStopDT				1342	2700	2270	2270
AnesEndDT						2275	2275
AbxSelect				1345	2710	2280	2280
AbxTiming				1346	2720	2285	2285
AbxDisc				1347	2730	2290	2290
AddIntraopPAnti						2295	2295
TempMeas							2296
LwstTemp					2780	2300	2300
LwstTempSrc						2305	2305
LwstIntraHemo						2310	2310
LwstHct					2790	2315	2315
HighIntraGlu						2320	2320
CPBUtil			1350	1350	2740	2325	2325
CPBCmb			1360	1360	2750	2330	2330
CPBCmbR			1370	1370	2760	2335	2335
CanArtStAort					2851	2340	2340
CanArtStFem					2852	2345	2345
CanArtStAx					2853	2350	2350
CanArtStInn						2355	2355
CanArtStOth					2854	2360	2360
CanVenStFem					2856	2365	2365
CanVenStJug					2857	2370	2370
CanVenStRtA					2858	2375	2375
CanVenStLfA					2859	2380	2380
CanVenStPulm					2861	2385	2385
CanVenStBi					2862	2390	2390
CanVenStOth					2863	2395	2395
PerfusTm	4360	4360	1380	1380	2770	2400	2400
CircArr				1381	2865	2405	2405
DHCATm				1382	2866	2410	2410
CPerfUtil					2867	2415	2415
CPerfTime					2868	2420	2420
CPerfTyp					2869	2425	2425
TotCircArrTm						2426	2426
AortOccl	3880	3880	1400	1400	2870	2430	2430
XClampTm	4350	4350	1410	1410	2880	2435	2435
CplegiaDeliv					2900	2440	2440

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CplegiaType					2901	2445	2445
CerOxUsed					2930	2450	2450
ConCalc					3005	2490	2490
AsmtAscAA					3010	2495	2495
AsmtAoDxMeth							2497
AsmtAoDx					3020	2500	2500
AsmtAPln					3030	2505	2505
IBldProdRef				1461	3050	2510	2510
IBldProd			1460	1460	3040	2515	2515
IBdRBCU			1470	1470	3060	2520	2520
IBdFFPU			1480	1480	3070	2525	2525
IBdPlatU			1500	1500	3090	2530	2530
IBdCryoU			1490	1490	3080	2535	2535
IntraClotFact						2545	2545
IntraopProComCon							2546
IMedEACA				1511	3120	2550	2550
IMedTran				1513	3140	2555	2555
InOpTEE					3157	2560	2560
PRepAR					3158	2565	2565
PRepAGradM							2566
PRepAPVL							2567
PRepMR					3159	2570	2570
PRepMGradM							2571
PRepMPVL							2572
PRepTR					3161	2575	2575
PRepTGradM							2576
PRepTPVL							2577
PPEFMeas							2581
PPEF							2582
PPPlanedPCI							2606
IMAUsed							2626
NoIMARsn					3220	2660	2627
NumIMADA	2660	2660	1580	1580	3230	2665	2628
LeftIMA							2629
LIMAHarvTech							2630
RightIMA							2631
RIMAHarvTech							2632
RadialArtUsed							2633

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
NumRadDA	2680	2680	1600	1600	3270	2680	2634
RadHTech				1601	3280	2685	2635
RadHarvPrepTm						2700	2636
VenousCondUsed							2637
DistVein	2580	2580	1530	1530	3200	2630	2638
DistVeinHTech				1531	3205	2635	2639
SaphHarPrepTm						2650	2640
NumOArtD			1620	1620	3300	2705	2641
NumArtVenComp							2650
NumVenArtComp							2651
NumArtArtComp							2652
ProxTech						2710	2710
CABDistSite01					3390	2730	2730
CABProximalSite01					3360	2740	2740
CABConduit01					3380	2750	2750
CABDistPos01					3410	2755	2755
CABEndArt01					3420	2760	2760
CABVeinPatAng01							2765
CAB02					3440	2770	2770
CABDistSite02					3480	2790	2790
CABProximalSite02					3450	2800	2800
CABConduit02					3470	2810	2810
CABDistPos02					3500	2815	2815
CABEndArt02					3510	2820	2820
CABVeinPatAng02							2825
CAB03					3530	2830	2830
CABDistSite03					3570	2850	2850
CABProximalSite03					3540	2860	2860
CABConduit03					3560	2870	2870
CABDistPos03					3590	2875	2875
CABEndArt03					3600	2880	2880
CABVeinPatAng03							2885
CAB04					3620	2890	2890
CABDistSite04					3660	2910	2910
CABProximalSite04					3630	2920	2920
CABConduit04					3650	2930	2930
CABDistPos04					3680	2935	2935
CABEndArt04					3690	2940	2940

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CABVeinPatAng04							2945
CAB05					3710	2950	2950
CABDistSite05					3750	2970	2970
CABProximalSite05					3720	2980	2980
CABConduit05					3740	2990	2990
CABDistPos05					3770	2995	2995
CABEndArt05					3780	3000	3000
CABVeinPatAng05							3005
CAB06					3800	3010	3010
CABDistSite06					3840	3030	3030
CABProximalSite06					3810	3040	3040
CABConduit06					3830	3050	3050
CABDistPos06					3860	3055	3055
CABEndArt06					3870	3060	3060
CABVeinPatAng06							3065
CAB07					3890	3070	3070
CABDistSite07					3930	3090	3090
CABProximalSite07					3900	3100	3100
CABConduit07					3920	3110	3110
CABDistPos07					3950	3115	3115
CABEndArt07					3960	3120	3120
CABVeinPatAng07							3125
CAB08					3980	3130	3130
CABDistSite08					4020	3150	3150
CABProximalSite08					3990	3160	3160
CABConduit08					4010	3170	3170
CABDistPos08					4040	3175	3175
CABEndArt08					4050	3180	3180
CABVeinPatAng08							3185
CAB09					4070	3190	3190
CABDistSite09					4110	3210	3210
CABProximalSite09					4080	3220	3220
CABConduit09					4100	3230	3230
CABDistPos09					4130	3235	3235
CABEndArt09					4140	3240	3240
CABVeinPatAng09							3245
CAB10					4160	3250	3250
CABDistSite10					4200	3270	3270

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CABProximalSite10					4170	3280	3280
CABConduit10					4190	3290	3290
CABDistPos10					4220	3295	3295
CABEndArt10					4230	3300	3300
CABVeinPatAng10							3305
ValExp					2450	3310	3310
ValExpPos					2451	3315	3315
ValExpTyp					2460	3320	3320
ValExpEt						3325	3325
ValExpDevKnown						3330	3330
ValExpDev					2462	3335	3335
ValExpUDI						3340	3340
ValExp2					2463	3350	3350
ValExpPos2					2464	3355	3355
ValExpTyp2					2465	3360	3360
ValExpEt2						3365	3365
ValExpDevKnown2						3370	3370
ValExpDev2					2467	3375	3375
ValExpDevUDI						3380	3380
VSAV					4270	3390	3390
VSAVPr					4280	3395	3395
VSTCV					4295	3400	3400
VSTCVR					4300	3405	3405
VSAVSurgRep							3407
VSAVSurgType							3408
VSAVSurgBioT							3409
VSAVRComA					4282	3410	3410
VSAVRExSutAn							3411
VSAVRLPlic					4284	3415	3415
VSAVRNodRel							3416
VSAVRPTFE					4286	3420	3420
VSAVRComRS					4288	3425	3425
VSAVRRaphe					4290	3430	3430
VSAVRRingA					4283	3435	3435
VSAVRRingATy							3436
VSAVRLResect					4285	3440	3440
VSAVRLeafShav							3441
VSAVRLPPatch					4287	3445	3445

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VSAVRDeb					4289	3450	3450
VSAVRPeriLeak						3455	3455
AnlrEnl			1670	1670	4310	3460	3460
AnlrEnlTech							3461
VSAVRoot							3462
VSAVRootOReimp							3463
VSAVRootOReimpTy							3464
VSAVRepBioTy							3465
VSAVSparRt							3466
VSAVSparRtOp							3467
VSAVRootRecon							3468
VSAVPat							3469
VSAVPatTy							3470
AorticImplant						3470	3472
VSAoIm	3250	3250	1690	1690	4330	3480	3480
VSAoImSz	3260	3260	1700	1700	4340	3485	3485
VSAoImUDI						3490	3490
VSMV					4351	3495	3495
VSMVPr					4352	3500	3500
VSMVRepApp							3501
VSMitRAnnulo					4361	3505	3505
VSMitRLeafRes					4362	3510	3510
VSLeafResTyp					4380	3515	3515
VSLeafAntRes							3517
VSLeafAntResLocD							3518
VSLeafAntResA1							3519
VSLeafAntResA2							3520
VSLeafAntResA3							3521
VSLeafPostRes							3522
VSLeafPostResLocD							3523
VSLeafPostResP1							3524
VSLeafPostResP2							3525
VSLeafPostResP3							3526
VSLeafComRes							3527
VSLeafComResLoc							3528
VSMitRPTFE					4394	3550	3532
VSNeoAnt							3534
VSNeoAntLocD							3535

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VSNeoAntA1							3536
VSNeoAntA2							3537
VSNeoAntA3							3538
VSNeoPost							3539
VSNeoPostLocD							3540
VSNeoPostP1							3541
VSNeoPostP2							3542
VSNeoPostP3							3543
VSNeoCom							3544
VSNeoComLoc							3545
VSMitRChord					4401	3560	3550
VSChorLfAnt							3551
VSChorLfAntLocD							3552
VSChorLfAntA1							3553
VSChorLfAntA2							3554
VSChorLfAntA3							3555
VSChorLfPost							3556
VSChorLfPostLocD							3557
VSChorLfPostP1							3558
VSChorLfPostP2							3559
VSChorLfPostP3							3560
VSChorLfCom							3561
VSChorLfComLoc							3562
VSMitRFold						3535	3565
VSMitRSlidP					4391	3540	3566
VSMitRADecalc					4393	3545	3567
VSMitRLeafERP					4402	3565	3568
VSMitRLeafERPLoc							3569
VSMitREdge					4403	3570	3570
VSMitRMitComm					4404	3580	3580
VSMitRMitCplasty						3585	3585
VSMitRMitCleft						3590	3590
VSMitParaprosLeak							3591
MitralIntent				1641	4410	3600	3600
VSChorPres					4450	3605	3605
VSTCVMit						3610	3610
MitralImplant						3615	3615
MitralImplantTy						3620	3620

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VSMiIm	3310	3310	1750	1750	4430	3625	3625
VSMiImSz	3320	3320	1760	1760	4440	3630	3630
VSMiImUDI						3635	3635
VSTV						3640	3640
VSTrRepair							3646
VSTrRepAnnulo							3647
OpTricusAnTy					4510	3655	3648
VSTrLeafRes							3649
VSTrReplace							3650
VSTCVTri						3650	3652
VSTrValvec							3653
TricuspidImplant						3660	3660
TricusImplantTy						3665	3665
VSTrIm	3370	3370	1810	1810	4540	3670	3670
VSTrImSz	3380	3380	1820	1820	4550	3675	3675
VSTrImUDI						3680	3680
VSPV						3685	3685
OpPulm	2380	2380	1660	1660	4560	3690	3690
VSTCVPu						3695	3695
PulmonicImplant						3700	3700
VSPuTypeImp							3701
VSPuImpMat							3702
PulmonicImplantTy						3705	3705
VSPuIm	3430	3430	1870	1870	4580	3710	3710
VSPuImSz	3440	3440	1880	1880	4590	3715	3715
VSPuImUDI						3720	3720
IABP	4480	4480	1430	1430	4610	3725	3725
IABPWhen	4490	4490	1440	1440	4620	3730	3730
IABPInd	4500	4500	1450	1450	4630	3735	3735
CathBasAssist					4660	3745	3745
CathBasAssistTy						3755	3755
CathBasAssistWhen					4690	3760	3760
CathBasAssistInd					4700	3765	3765
ECMO					4730	3775	3775
ECMOWhen					4740	3780	3780
ECMOInd					4750	3785	3785
PrevVAD				1920	1920	4760	3790	3790
PrevVADF				1921	4770	3795	3795

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
PrevVADD					4771	3800	3800
PrevVADIn					4772	3805	3805
PrevVADTy					4773	3810	3810
PrevVADDevice					4774	3815	3815
PrevVADUDI						3820	3820
PrevVADExp						3825	3825
PrevVADExpRsn						3830	3830
PrevVADExpDt						3835	3835
VADImp						3840	3840
VADImpTmg						3845	3845
VADInd			1930	1930	4790	3850	3850
VImpTy			2030	2030	4850	3855	3855
VProdTy			2040	2040	4880	3860	3860
VImpDt			2050	2050	4890	3865	3865
VImpUDI						3870	3870
VExp			2060	2060	4900	3875	3875
VExpRsn			2080	2080	4920	3880	3880
VExpDt			2070	2070	4910	3885	3885
VImp2				2129	4940	3895	3895
VADImpTmg2						3900	3900
VADInd2						3905	3905
VImpTy2			2130	2130	4950	3910	3910
VProdTy2			2140	2140	4980	3915	3915
VImpDt2			2150	2150	4990	3920	3920
VImpUDI2						3925	3925
VExp2			2160	2160	5000	3930	3930
VExpRsn2			2180	2180	5020	3935	3935
VExpDt2			2170	2170	5010	3940	3940
VImp3				2209	5040	3950	3950
VADImpTmg3						3955	3955
VADInd3						3960	3960
VImpTy3			2210	2210	5050	3965	3965
VProdTy3			2220	2220	5080	3970	3970
VImpDt3			2230	2230	5090	3975	3975
VImpUDI3						3980	3980
VExp3			2240	2240	5100	3985	3985
VExpRsn3			2260	2260	5120	3990	3990
VExpDt3			2250	2250	5110	3995	3995

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
OCarASDPFO						4075	4030
OCarASDSec						4110	4035
OCarAFibIntraLes						4105	4040
OCarAFibEpLes						4070	4045
OCarAAProc						4080	4050
OCarAAMeth							4051
OCarAAModel							4052
OCarAAUDI							4053
OCarACD			2450	2450	5400	4085	4055
OCarLeadInsert						4090	4060
OCarACDLE					5430	4120	4065
OCarCong	4190	4190	2410	2410	5300	4162	4070
OCarLVA	4150	4150	2360	2360	5220	4125	4075
OCarStemCell						4095	4080
OCPulThromDis					5540	4130	4085
OCarSubaStenRes						4135	4090
OCarSubaStenResTy						4140	4100
OCarSVR		4185	2400	2400	5290	4145	4105
OCarLasr	4200	4200	2420	2420	5370	4100	4110
OCTumor					5530	4150	4115
OCarCrTx	4220	4220	2440	2440	5390	4152	4120
OCarTrma	4210	4210	2430	2430	5380	4153	4125
OCarVSD	4160	4160	2370	2370	5230	4155	4130
OCarOthr	4250	4250	2560	2560	5550	4160	4135
OCarAFibLesLoc						4191	4191
OCarAFibMethRad					5455	4200	4200
OCarAFibMethRadBi						4205	4205
OCarAFibMethCAS					5460	4210	4210
OCarAFibMethCryo					5457	4215	4215
OCarLesDoc						4195	4240
AFibLes1						4250	4250
AFibLes2						4255	4255
AFibLes3a						4260	4260
AFibLes3b						4265	4265
AFibLes4						4270	4270
AFibLes5						4275	4275
AFibLes6						4280	4280
AFibLes7						4285	4285

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
AFibLes8						4290	4290
AFibLes9						4295	4295
AFibLes10						4300	4300
AFibLes11						4305	4305
AFibLes12						4310	4310
AFibLes13						4315	4315
AFibLes14						4320	4320
AFibLes15a						4325	4325
AFibLes15b						4330	4330
AFitLesCSL							4336
FamHistAorta							4500
PatGenHist							4505
PriorAorta							4510
PriorRepRoot							4520
PriorRepTyRoot							4521
PriorFailRoot							4522
PriorProgRoot							4523
PriorRepAsc							4525
PriorRepTyAsc							4526
PriorFailAsc							4527
PriorProgAsc							4528
PriorRepArch							4530
PriorRepTyArch							4531
PriorFailArch							4532
PriorProgArch							4533
PriorRepDesc							4535
PriorRepTyDesc							4536
PriorFailDesc							4537
PriorProgDesc							4538
PriorRepSupraAb							4540
PriorRepTySupraAb							4541
PriorFailSupraAb							4542
PriorProgSupraAb							4543
PriorRepInfraAb							4545
PriorRepTyInfraAb							4546
PriorFailInfraAb							4547
PriorProgInfraAb							4548
Endoleak							4620

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
EndoleakTypeI							4625
EndoleakTyILoc							4630
EndoleakTypeII							4635
EndoleakVessNum							4640
EndoleakTypeIII							4645
EndoleakType							4650
EndoleakTypeIV							4655
EndoleakTypeV							4660
Infection							4665
InfecType							4670
Trauma							4675
TraumacRoot							4680
TraumaAsc							4685
TraumaArch							4690
TraumaDesc							4695
TraumaThorac							4700
TraumaAbdom							4705
Presentation							4710
PrimIndic							4715
AnEtilogy							4720
AnType							4725
AnRupt							4730
AnRuptCon							4735
AnLoc							4740
DisTiming							4745
DisOnsetDtKnown							4746
DisOnsetDt							4747
DisTearLoc							4750
DisSecLoc							4755
DisRetExt							4760
DisRetLoc							4765
DisPosTEVAR							4770
DistalExt							4775
DistalExtLoc							4780
DisMal							4785
DisMalCor							4790
DisMalRtSubclav							4791
DisMalRtComCar							4792

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
DisMalComL							4800
DisMalSubL							4805
DisMalCel							4810
DisMalSup							4815
DisMalRenL							4820
DisMalRenR							4825
DisMalIlio							4830
DisMalSpin							4835
DisLowMotFun							4836
DisLowSenDef							4837
DisRupt							4840
DisRuptCon							4845
DisRuptLoc							4850
RootAAnnEctasia							4855
RootDilaAsym							4870
RoottDilaAsym							4875
RootSinus							4880
RootSinusLoc							4881
ArchType							4882
ArchAbRtSub							4884
ArchAbLtSub							4885
ArchKom							4886
ArchBovine							4887
ArchVarVertOr							4888
ArchPatIMA							4889
AscAsymDil							4891
AscProxGr							4892
Diameter3DMeas							4895
Diam3DAnnulus							4900
Diam3DSinus							4905
Diam3DSinotubular							4910
Diam3DMidAsc							4915
Diam3DDistalAsc							4920
Diam3DZone1							4925
Diam3DZone2							4930
Diam3DZone3							4935
Diam3DZone4							4940
Diam3DZone5							4941

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
Diam3DZone6							4942
Diam3DZone7							4943
Diam3DZone8							4944
Diam3DZone9							4945
Diam3DZone10							4946
Diam3DZone11							4947
DiamLgstAnnulus							4948
DiamLgstSinus							4949
DiamLgstSinotubular							4950
DiamLgstMidAsc							4951
DiamLgstDistalAsc							4952
DiamLgstZone1							4953
DiamLgstZone2							4954
DiamLgstZone3							4955
DiamLgstZone4							4956
DiamLgstZone5							4957
DiamLgstZone6							4958
DiamLgstZone7							4959
DiamLgstZone8							4960
DiamLgstZone9							4961
DiamLgstZone10							4962
DiamLgstZone11							4963
PlanStagHybrid							4970
ArchProc							4975
ArchDisTech							4980
ArchDiscSite							4985
ArchDisExt							4990
ArchBranReimp							4995
ArchBranInnom							5000
ArchBranRSub							5001
ArchBranRComm							5002
ArchBranLComm							5005
ArchBranLSub							5010
ArchBranLVert							5011
ArchBranOth							5012
DescAortaProc							5015
DescAortaLoc							5020
AortaInterReimp							5030

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
AortaDisZone							5035
AortaVisceral							5045
AortaViscCel							5050
AortaViscSup							5055
AortaViscRenR							5060
AortaViscRenL							5065
EndovasProc							5066
EndovasAccess							5067
EndovasPercAcc							5068
EndoProxZone							5070
EndoDistalZone							5080
EndovasTAVR							5090
EndovasTEVAR							5095
Innominate							5100
InAortaInnom							5105
InAortaCarotid							5110
InAortaSubclav							5115
InCaroSubclav							5125
InOther							5135
LeftCarotid							5140
LTCaroAortaCaro							5150
LTCaroInnomCaro							5160
LTCaroCarotid							5170
LTCaroOther							5175
LeftSubclavian							5180
LTSubAortaSub							5195
LTSubCarotidSub							5205
LTSubOther							5213
OthArchVes							5214
OthInnomCaro							5215
OthInnomSub							5216
OthSubSub							5217
OthOther							5218
Celiac							5220
CeliacAortaCeli							5225
CeliacIliacCeliac							5245
CeliacOther							5265
SupMesenteric							5270

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
SupMesAortaSuMe							5280
SupMesIliacSupMe							5300
SupMesOther							5315
RightRenal							5320
RtRenAortaRtRe							5335
RtRenIliacRtRen							5355
RtRenOther							5365
LeftRenal							5370
LtRenAortaLtRe							5375
LtRenIliacLtRen							5380
LtRenOther							5385
RightIliac							5390
RtIliacFemFem							5391
RtIliacOther							5392
LeftIliac							5393
LtIliacFemFem							5394
LtIliacOther							5395
IntIliacPres							5396
OthVisVes							5397
OthVisAortOth							5398
OthVisIliacOth							5399
OthVisOther							5400
DisProxTearCov							5401
EndoEndProc							5402
EndoEndProcTy							5403
ConvToOpen							5404
ConvToOpenRes							5405
IntDisExten							5406
UnintRup							5407
UnintRupLoc							5408
SpinalDrain							5420
MotorEvoke							5425
MotorEvokeAb							5426
SomatEvoke							5430
SomatEvokeAb							5431
IntraOpEEG							5432
IntraOpEEGAb							5433
IntraOpIVUS							5434

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
TransDoppler							5435
IntraOpAng							5436
IntraOpAngVol							5437
IntraOpAngFlTm							5438
ADevIns							5440
ADevLoc01							5450
ADevDelMeth01							5455
ADevOut01							5460
ADevModel01							5465
ADevUDI01							5470
ADevLoc02							5475
ADevDelMeth02							5480
ADevOut02							5485
ADevModel02							5490
ADevUDI02							5495
ADevLoc03							5500
ADevDelMeth03							5505
ADevOut03							5510
ADevModel03							5515
ADevUDI03							5520
ADevLoc04							5525
ADevDelMeth04							5530
ADevOut04							5535
ADevModel04							5540
ADevUDI04							5545
ADevLoc05							5550
ADevDelMeth05							5555
ADevOut05							5560
ADevModel05							5565
ADevUDI05							5570
ADevLoc06							5575
ADevDelMeth06							5580
ADevOut06							5585
ADevModel06							5590
ADevUDI06							5595
ADevLoc07							5600
ADevDelMeth07							5605
ADevOut07							5610

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
ADevModel07							5615
ADevUDI07							5620
ADevLoc08							5625
ADevDelMeth08							5630
ADevOut08							5635
ADevModel08							5640
ADevUDI08							5645
ADevLoc09							5650
ADevDelMeth09							5655
ADevOut09							5660
ADevModel09							5665
ADevUDI09							5670
ADevLoc10							5675
ADevDelMeth10							5680
ADevOut10							5685
ADevModel10							5690
ADevUDI10							5695
ADevLoc11							5700
ADevDelMeth11							5705
ADevOut11							5710
ADevModel11							5715
ADevUDI11							5720
ADevLoc12							5725
ADevDelMeth12							5730
ADevOut12							5735
ADevModel12							5740
ADevUDI12							5745
ADevLoc13							5750
ADevDelMeth13							5755
ADevOut13							5760
ADevModel13							5765
ADevUDI13							5770
ADevLoc14							5775
ADevDelMeth14							5780
ADevOut14							5785
ADevModel14							5790
ADevUDI14							5795
ADevLoc15							5800

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
ADevDelMeth15							5805
ADevOut15							5810
ADevModel15							5815
ADevUDI15							5820
OCarCongDiag1					5310	4500	6500
OCarCongDiag2					5320	4505	6505
OCarCongDiag3					5330	4510	6510
OCarCongProc1					5340	4515	6515
OCarCongProc2					5350	4520	6520
OCarCongProc3					5360	4525	6525
ONCCarEn	4320	4320	2570	2570	5560	4530	6530
ONCOVasc	4330	4330	2580	2580	5570	4535	6535
ONCOThor	4340	4340	2590	2590	5580	4540	6540
ONCOther			2600	2600	5590	4545	6545
PostOpPeakGlu						4550	6550
PostCreat				2605	5610	4555	6555
PostopHemoglobin							6556
PostopHct							6557
BldProd	4630	4630	2610	2610	5620	4560	6560
BdRBCU			2620	2620	5630	4565	6565
BdFFPU			2630	2630	5640	4570	6570
BdCryoU			2640	2640	5650	4575	6575
BdPlatU			2650	2650	5660	4580	6580
ExtubOR			2660	2660	5670	4585	6585
PostopIntub							6591
VentHrsA		4679	2690	2690	5690	4595	6595
VentHrsTot						4600	6600
ICUVisit			300	300	5700	4605	6605
ICUInHrs		354	310	310	5710	4610	6610
ICUReadm		355	320	320	5720	4615	6615
ICUAdHrs		356	330	330	5730	4620	6620
POpTTEch					5744	4625	6625
POpTTAR					5745	4630	6630
POpAortParaLk							6631
POpTTMR					5746	4635	6635
POpMitParaLk							6636
POpTTTR					5747	4640	6640
POpTTPu						4645	6645

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
POpEFD					5748	4650	6650
POpEF					5749	4655	6655
POpEnzDrawn					5750	4660	6660
POpPkCKMB					5751	4665	6665
POpPkTrI					5752	4670	6670
POpPkTrT					5753	4675	6675
POpEKG					5754	4680	6680
SurSInf					5841	4690	6690
CSternalSupInf					5850	4695	6695
DeepSternInf						4700	6700
DeepSternInfDt						4705	6705
CIThor	4930	4930	2790	2790	5930	4710	6710
ConduitHarv						4715	6715
CanSite						4720	6720
WoundInter						4725	6725
WoundIntOpen						4730	6730
WoundIntVac						4735	6735
WoundIntMuscle						4740	6740
WoundIntOmental						4745	6745
Complics	4760	4760	2710	2710	5759	4750	6750
COpReBld	4840	4840	2720	2720	5760	4755	6755
COpReBldTim					5770	4760	6760
COpReVlv	4850	4850	2730	2730	5780	4765	6765
CReintMI							6771
CReintMIVes							6772
CReintMIIntTy							6773
CAortReint							6774
CAortReintTy							6775
COpReOth	4870	4870	2750	2750	5800	4775	6778
COpReNon	4880	4880	2760	2760	5810	4780	6780
COpPlndDelay					5811	4785	6785
CSternal					5830	4790	6790
CSternalDehis					5840	4795	6795
CSepsis					6010	4800	6800
CSepsisPBC					6020	4805	6805
CNStrokP	5000	5000	2830	2830	6030	4810	6810
CNStrokTTIA				2841	6040	4815	6815
CNEnceph							6821

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CNComa	5030	5030	2850	2850			6822
CNParal				2851	6110	4825	6825
CNParalTy				2852	6120	4830	6826
CNParesis							6829
CNParesisTy							6830
PhrenNrvInj					6342	4945	6832
RecLarynNrvInj					6341	4940	6833
CPVntLng	5050	5050	2860	2860	6130	4835	6835
CPPneum	5100	5100	2880	2880	6150	4840	6840
CVTE					6160	4845	6845
PulmEmb					6170	4850	6850
DVT					6180	4855	6855
CPlEff					6190	4860	6860
PostOpPneumo						4865	6865
CRenFail	5120	5120	2890	2890	6200	4870	6870
CRenDial		5130	2900	2900	6210	4875	6875
DialDur					6220	4880	6880
DialStat							6881
CUltraFil					6230	4885	6885
CVallFem	5230	5230	2910	2910	6240	4890	6890
CVaLbIsc	5240	5240	2920	2920	6250	4895	6891
CMAD							6892
CMADCanIns							6893
CMADHem							6894
CMADThromEm							6895
CMADHemolytic							6896
CMADInf							6897
CMADOther							6898
CRhythmDis					6270	4900	6900
COtArrst	5270	5270	2940	2940	6280	4905	6905
COtAortEndo							6906
COtAortEndoTy							6907
COtAortRupt							6908
CVaAoDis	5220	5220	3000	3000	6340	4935	6909
CVaAoDisTy							6910
COtAortSide							6911
COtAortTear							6912
COtCoag	5280	5280	2950	2950	6290	4910	6914

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
COtTamp	5290	5290	2960	2960	6300	4915	6915
COtGI	5300	5300	2970	2970	6310	4920	6920
COtLiver							6921
COtMSF	5310	5310	2980	2980	6320	4925	6925
COtAFib	5320	5320	2990	2990	6330	4930	6930
COtOther			3010	3010	6350	4950	6950
LFUDate							7000
Mt30Stat	5350	5350	3040	3040	6380	5015	7001
Mt30StatMeth					6381	5020	7002
DischMortStat							7005
DischDt	340	340	280	280	620	315	7008
DisLoctn		5336	3190	3190	6520	5045	7009
CardRef			3200	3200	6530	5050	7010
SmokCoun			3210	3210	6540	5055	7011
DCASA		5331	3120	3120	6460	5060	7060
DCADP			3090	3090	6430	5070	7070
DCOthAntiplat						5075	7075
DCDirThromIn					6511	5080	7080
DCCoum			3180	3180	6510	5085	7085
DCFactorXa						5090	7090
DCNovOrAnti							7091
DCOthAnticoag						5095	7095
DCACE		5332	3130	3130	6470	5100	7100
DCAmiodarone						5110	7103
DCBeta		5333	3140	3140	6480	5105	7105
DCLipLowStat						5115	7115
DCLipLowNonStat						5120	7120
MtDate	5360	5360	3060	3060	6400	5030	7121
MtCause	5380	5380	3080	3080	6420	5040	7122
InHospDthLoc							7123
MtOpD	5400	5355	3050	3050	6390	5025	7124
PostDisDthLoc							7125
Readmit						5140	7140
ReadmitDt						5145	7145
ReadmRsn	5510	5510	3230	3230	6560	5160	7160
ReadmPro			3240	3240	6570	5165	7165
ReadmAortIntTy							7166
ReadmAortIntInd							7167

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
PredMort	2530	5610	3250	3250	6590	5170	7170
PredDeep		5620	3260	3260	6600	5175	7175
PredReop		5630	3270	3270	6610	5180	7180
PredStro		5640	3280	3280	6620	5185	7185
PredVent		5650	3290	3290	6630	5190	7190
PredRenF		5660	3300	3300	6640	5195	7195
PredMM		5670	3310	3310	6650	5200	7200
Pred6D		5680	3320	3320	6660	5205	7205
Pred14D		5690	3330	3330	6670	5210	7210
TempYN1						5215	7215
TempYN2						5220	7220
TempDt						5225	7225
TempCode						5230	7230
TempText						5235	7235
PrimAnesName							7310
PrimAnesNPI							7315
AnesCareTeamMod							7320
PainScorePre							7325
TransfAlg							7330
CellSavVol							7335
TotHep							7340
HepMgmt							7345
TotProt							7350
AntithromDose							7351
IntraViscoTest							7360
VolAgentUsed							7365
VolAgentIso							7366
VolAgentSevo							7367
VolAgentDes							7368
VolAgentOth							7369
VolAgentTimPre							7370
VolAgentTimDur							7375
VolAgentTimPost							7380
VolAgentTimMaint							7385
DexIntra							7390
PropIntra							7395
MidazIntra							7400
TotInsuIntra							7405

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
PreAnesthBPSys							7410
PreAnesthBPDia							7415
PreAnesthBPMean							7420
PreAnesthHR							7425
PACIntra							7430
CoreTempSrc							7435
CoreTempMax							7440
NitricOxIntraop							7445
TotCrystAnesth							7450
TotColloidAnesth							7455
TotAlbumAnesth							7460
GlucTroughIntraop							7470
VasodilIntraop							7475
IntraProcEEG							7476
IntraOpPreTEE							7480
PreLVEFMeas							7485
PreLVEF							7490
PreRVFx							7495
PreMR							7500
PreMS							7505
PreAR							7510
PreAS							7515
PreAVAAssessed							7520
PreAVA							7525
PreTR							7530
PrePFO							7535
AscAoAssessed							7540
MxAscAo							7545
MxAscAoThick							7550
AsAthMo							7555
AoArcVis							7560
MxArcAth							7565
ArcAthMo							7570
CPBUsed							7575
RetrAutolPrim							7580
TotCrystPerf							7585
TotColloidPerf							7590
TotAlbumPerf							7595

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
HemofilPerf							7600
InotropWeanCPB							7605
VasopWeanCPB							7610
IntraOpPostTEE							7615
PostSAM							7620
RetCPBEch							7625
PostLVEFMeas							7630
PostLVEF							7635
PostRVFx							7640
IntraCardArr							7641
ORDeath							7645
PostTempMeas							7650
PostCoreTemp							7655
PostINRMeas							7660
PostINR							7665
PostWBCMeas							7670
PostWBC							7675
PostPltMeas							7680
PostPlt							7685
PostHCTMeas							7690
PostHCT							7695
PostFibrinMeas							7696
PostFibrin							7697
PostLactMeas							7700
PostLact							7705
DexPost							7710
PropPost							7715
PostopDel							7720
PostHITAnti							7725
PainScorePOD3							7730
PainScoreDisch							7735
ADEt1						1940	
ADEt2						1945	
ADEt3						1950	
ADLesTAneur						1895	
ADLesTCoarcNar						1900	
ADLesTDis						1925	
ADLesTDisTmg						1930	

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
ADLesTDisTy						1935	
ADLesTIntraHema						1920	
ADLesTPenUlcer						1915	
ADLesTPseudo						1910	
ADLesTRup						1905	
ADLocArch						1880	
ADLocAsc						1875	
ADLocDesThor						1885	
ADLocRoot						1870	
ADLocThora						1890	
ADPres						1865	
AFibLes16						4335	
AnasDev			1550	1550			
AnasDevU			1540	1540			
Angina	1380	1380	780				
AnginalClass					1570	905	
AngType	1390	1390	790				
AngUnstT	1400	1400					
AoDisAc					5516		
AoDisTyp					5517		
AortaDisease						1860	
AorticImplantTy						3475	
AortProcAsc						4345	
AortProcCoil						4400	
AortProcDesDist						4370	
AortProcDesMid						4365	
AortProcDesProx						4360	
AortProcHemi						4350	
AortProcOther						4410	
AortProcRoot						4340	
AortProcTEVAR						4405	
AortProcThora						4375	
AortProcTotArch						4355	
AoTrTyp					5518		
ArrhyAfib				853	1700		
ArrhyAfibTy					1701		
Arrhyth	1450	1450	840	840			

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
ArrhythAFibDur						985	
ArrhyTHB				852	1690		
ArrhythWhen					1650		
ArrhyTyp	1460	1460	850				
ArrhyVtach				851	1660		
ArrhyVtachHrtBlk					1670		
ArrhyVtachSicSinSyn					1680		
ArrivalDt					550		
ArrivalTm					560		
CABDisLoc01					3355		
CABDisLoc02					3445		
CABDisLoc03					3535		
CABDisLoc04					3625		
CABDisLoc05					3715		
CABDisLoc06					3805		
CABDisLoc07					3895		
CABDisLoc08					3985		
CABDisLoc09					4075		
CABDisLoc10					4165		
CABDistTech01					3400		
CABDistTech02					3490		
CABDistTech03					3580		
CABDistTech04					3670		
CABDistTech05					3760		
CABDistTech06					3850		
CABDistTech07					3940		
CABDistTech08					4030		
CABDistTech09					4120		
CABDistTech10					4210		
CABHybrPCI					3165		
CABHyPCI01					3430		
CABHyPCI02					3520		
CABHyPCI03					3610		
CABHyPCI04					3700		
CABHyPCI05					3790		
CABHyPCI06					3880		
CABHyPCI07					3970		

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CABHyPCI08					4060		
CABHyPCI09					4150		
CABHyPCI10					4240		
CABPctSten01					3356		
CABPctSten02					3446		
CABPctSten03					3536		
CABPctSten04					3626		
CABPctSten05					3716		
CABPctSten06					3806		
CABPctSten07					3896		
CABPctSten08					3986		
CABPctSten09					4076		
CABPctSten10					4166		
CABPrevCon01					3357		
CABPrevCon02					3447		
CABPrevCon03					3537		
CABPrevCon04					3627		
CABPrevCon05					3717		
CABPrevCon06					3807		
CABPrevCon07					3897		
CABPrevCon08					3987		
CABPrevCon09					4077		
CABPrevCon10					4167		
CABProxTech01					3370		
CABProxTech02					3460		
CABProxTech03					3550		
CABProxTech04					3640		
CABProxTech05					3730		
CABProxTech06					3820		
CABProxTech07					3910		
CABProxTech08					4000		
CABProxTech09					4090		
CABProxTech10					4180		
CABUnpln	2550	2550					
CanAortAtr				1393			
CanAortFem				1391			
CanFemAtr				1394			

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CanFemFem				1392			
Cannulat	3760	3760	1390				
CanOther				1395			
CardPres				791	1610		
CarShTyp	1430	1430	820				
CathBasAssistDev					4670		
CathBasAssistRemDt					4710		
CCancCaseVal					2428		
CHF	1370	1370	770	770	1580	910	
CIArm				2801			
CigSmoker				385	650		
CigSmokerCurr					660		
CILeg	4940	4940	2800	2800	5940		
CISeptic	4960	4960	2810	2810			
CIStDeep	4920	4920	2780	2780	5860		
CIUTI	4970	4970					
ClassCCS	1530	1530					
CNComaEnceph					6070	4820	
CNStrokT	5010	5010	2840				
CNStrokTRIND				2842			
CnvIndic	3520	3520					
CnvStdIn	3510	3510					
COFirstInd				1426	2980		
CombCardPCI						2585	
CombProcs						2590	
CombProcsPCI						2600	
CombProcsStatus						2595	
CombProcsStentTy						2605	
CompMAD						4010	
CompMAD1						4015	
CompMAD2						4020	
CompMAD3						4025	
ConvCPB		3479					
COpPerMI	4890	4890	2770	2770			
COpReGft	4860	4860	2740	2740	5790	4770	
CorShunt	3930	3930					
COtHtBlk	5260	5260	2930	2930			

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
CPBUsed	3750	3478					
Cplegia	4380	4380	1420	1420			
CPPulEmb	5070	5070	2870	2870			
CSternalMedia					5870		
CSternalMediaDtDiag					5880		
CSternalMediaSPMuscle					5910		
CSternalMediaSPOmental					5920		
CSternalMediaSPOpen					5890		
CSternalMediaSPWVac					5900		
CumulSatLft				1424	2960		
CumulSatRt				1425	2970		
CVDComa				551			
CVDNInvas				556			
CVDRIND				554			
CVDType	700	700	550				
DCAArhy			3100	3100	6440		
DCAArMN			3110	3110			
DCAntPlt		5335					
DCLipid		5334	3150	3150	6490		
DCLipMT			3160	3160	6500		
DCP2Y12						5065	
DistArt	2570	2570	1520	1520	3190	2625	
EmergRsn	2320	2320	1260	1260	2410		
EndoProc					5520		
EndoProcDeb					5521		
ErrFlag	-30	-30	-30	-30	-30		
FlowPtcy	4080	4080					
GDF15						640	
HDEFMeth	1870	1870	1090	1090	1970		
HDPAD		1915	1100	1100			
HDPAMean	1940	1940	1110	1110			
HICNumber				171	440		
HPVCI			1980	1980			
HPVCVP			1960	1960			
HPVPCWP			1950	1950			
HPVPVO2			2020				
HPVPVO2M			2010				

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
HPVPVR			1970				
HPVRVEF			1990	1990			
HPVRVMth			2000				
Hrvstnum	-40	-40	-40	-40	-40		
hsCRP						635	
hsTnT						630	
HybrProc					3180		
HybrStat					3170		
Hyprchol	510	510	420				
IABPRemDt					4640		
IBdFactorVII					3091		
IMAArtUs	2590	2590	1560	1560	3210	2655	
IMATechn	4070	4070	1570	1570	3240	2670	
IMedAprot				1509			
IMedAprotD				1510			
IMedDesmo				1512			
IndMnInv	3480	3480					
IndReop					1340		
IntPVAD			1940	1940			
IschTCFX	3970						
IschTLAD	3950						
IschTRCA	3960						
LMainDis	1830	1830	1060	1060	1940		
LVADInf			2110	2032			
LVADinf2				2131			
LVADInf3				2211			
MedAArrhy					1770		
MedACEI		1670	900	900			
MedADPI			1020				
MedAPlt		1710					
MedAplt5Days				1023	1870	1050	
MedCoum			950	950	1780	1075	
MedDig	1640	1640					
MedDiur	1730	1730					
MedGPMN			1040	1040	1890	1090	
MedLipMN			1010	1010	1840	1105	
MedThrombinIn						1135	

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
MedXaInhibitors						1080	
MI	1340	1340	750				
Mortalty		5337	3020	3020	6360	5005	
MtDCStat	5340	5340	3030	3030	6370	5010	
MtLocatn	5370	5370	3070	3070	6410	5035	
NonStVDys					1350		
NTproBNP						625	
NumGEPDA	2700	2700	1610	1610			
NumIncis	3500	3500					
NumRadArtUs					3260	2675	
OCAoProcType					5471		
OCarACDL			2460	2460			
OCarACDLI					5410		
OCarAFES			2480				
OCarAFib			2470	2470			
OCarAFibAProc					5465		
OCarAFibMethLas					5459		
OCarAFibMethMicro					5458		
OCarAFibMethUltra					5456		
OCarAFibSur					5450		
OCarAFibSurLAA					5452		
OCarAFibSurLoc					5451		
OCarAICD	4240	4240					
OCarASD	4170	4170	2380	2380	5240		
OCarASDTy					5241		
OCarBati	4180	4180	2390	2390			
OCarPace	4230	4230					
ONCAoAn	4260	4260	2510	2510			
ONCAoGraft					5474		
ONCAoRt					5473		
ONCArch			2530	2530	5490		
ONCArchRepExt					5491		
ONCAsc			2520	2520	5480		
ONCDesc			2540	2540	5500		
ONCThAbd			2550	2550	5510		
ONCThAbdExtent					5514		
ONCThAbdGraft					5511		

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
ONCThAbdInterVes					5512		
ONCThAbdLumCSF					5513		
OpAortic	2350	2350	1630	1630			
OpMinInv	2500						
OpMitral	2360	2360	1640	1640			
OpTricus	2370	2370	1650	1650	4500	3645	
OthTobUse					661		
ParticID	425	352	289	298	648		
PatCountry					220		
PatMInit				120			
PatPermAddr					240		
PatPermCity					250		
PatPermCountry					280		
PatPermRegion					260		
PatPermZIP					270		
PayorCom				254	510	275	
PayorGov				247	420	225	
PayorGovCor					500	265	
PayorGovIHS				252	490	260	
PayorGovMcaid				249	460	245	
PayorGovMcare				248	430	230	
PayorGovMcareFFS					450	240	
PayorGovMil				250	470	250	
PayorGovOth						270	
PayorGovState				251	480	255	
PayorHMO				255	520	280	
PayorNonUS				256	530	285	
PayorNS				257	540	290	
PCancCaseVal					2420		
POArr					1445		
POCO				671	1530		
POCPaceT			650				
POpImagStdy					5755	4685	
PrCBNum	740	740					
PrCNNum	750	750					
PredCoefVrsn				3249			
PRepEF						2580	

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
PreRSO2Lft				1422	2940		
PreRSO2Rt				1423	2950		
PrevProcAVBall					1285		
PrevProcAVRepair					1230		
PrevProcAVReplace					1220		
PrevProcMVBall					1290		
PrevProcMVRepair					1250		
PrevProcMVReplace					1240		
PrevProcPercVRepair					1310		
PrevProcPV					1280		
PrevProcTCVRep					1300		
PrevProcTVRepair					1270		
PrevProcTVReplace					1260		
PrimInc	3490	3490					
PriorHF					1590	920	
PrNSBall	1280	1280					
PrNSStnt	1230	1230					
PrOCAICD			630	630	1460		
ProcID	-10	-10	-10	-10	-10		
PrOCPace			640	640	1470		
PrOthCar	940	940	620	620	1440		
PrOthCongen				621	1450		
ProxLAD					1941		
PrPTCA	1160	1160					
PrPTIntv	1190	1190					
PrValDtKnown					1410		
PrValveDate					1420		
PrValveMonths					1430		
PVCmpBld			2290	2290	5140		
PVCmpBO				2341	5200		
PVCmpDCI			2310	2310	5160		
PVCmpEnd			2330	2330	5180		
PVCmpESt			2300	2300	5150		
PVCmpHem					5191		
PVCmpMal			2340	2340	5190		
PVCmpPPI			2320	2320	5170		
Race	210	210	190				

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
RadArtUs	2670	2670	1590	1590			
RadHrvstT				1602	3285		
RadPrepT					3286		
RcrdNum	-50	-50	-50	-50	-50		
RcrdNum	-50	-50	-50	-50	-50		
Readm30	5500	5500	3220	3220	6550		
RecComp	70						
RecordID	430	353	369	299	649		
ReIntub		4678	2680	2680	5680	4590	
RenFail	530	530	440				
ResectSubA					4311		
RiskIschemia						1535	
RVADInf			2120	2033			
RVADinf2				2132			
RVADInf3				2212			
SameDay	350	350					
SaphHrvstT				1532	3206		
SaphPrepT					3207		
SCRSO2Lft				1427	2990		
SCRSO2Rt				1428	3000		
SIStartT		4347	1330				
SIStopT		4348	1340				
SmokCurr	450	450	380				
Smoker	440	440	370				
StntIntv		1235					
StressTstRes						1530	
STSCustNum1				3400	6680		
STSCustNum2				3410	6690		
STSCustNum3				3420	6700		
STSCustNum4				3430	6710		
STSCustNum5				3440	6720		
STSCustTxt1				3450	6730		
STSCustTxt2				3460	6740		
STSCustTxt3				3470	6750		
STSCustTxt4				3480	6760		
STSCustTxt5				3490	6770		
STSTLink		54	70	70			

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
SurgGrp	2235	2235					
SurgID			1220				
SurgYear	-20	-20	-20	-20	-20		
SutrTech	4040	4040					
SynthGft						4380	
SynthGftCSF						4390	
SynthGftEleph						4395	
SynthGftInter						4385	
ThrIntvl	1260	1260					
Thrmblys	1240	1240					
TotHrICU		357	340	340			
UnplAo					2505		
UnplAV					2503		
UnplCABG					2502		
UnplMV					2504		
UnplOth					2507		
UnplProc					2501		
UnplVAD					2506		
UrgntRsn	2310	2310	1250	1250	2400		
VAD	4550	4550	1300	1300			
VADDiscS			2350	2350	5210		
VADListVrsn				1922			
VADProc					2480	2130	
ValExpMan					2461		
ValExpMan2					2466		
ValveVrsn				1881			
VCardTx			2090				
VCardTx2			2190				
VCardTx3			2270				
VDAoEt					2090		
VDAoEt1						1625	
VDAoEt2						1630	
VDAoEt3						1635	
VDAoEt4						1640	
VDAoEt5						1645	
VDAortTumor					2150		
VDCongenT					2120		

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VDEndAB					2110		
VDLVOutOb					2140		
VDMiEt1						1720	
VDMiEt2						1725	
VDMiEt3						1730	
VDMiLes1						1735	
VDMiLes2						1740	
VDMiLes3						1745	
VDMitAnDegDis					2190		
VDMitDegLoc					2180		
VDMitET					2170		
VDMitFC					2230	1715	
VDMitIsTy					2210		
VDMitPMR					2220		
VDMitTumor					2221		
VDPrimAo					2130		
VDTrEt					2290		
VDTrEt1						1800	
VDTrEt2						1805	
VDTrEt3						1810	
VentHrs	4680	4680	2700				
VentHrsI		4676	2670				
VSAoEx	3280	3280					
VSAoExSz	3290	3290					
VSAoExTy	3270	3270					
VSAoImTy	3240	3240	1680	1680			
VSLeafRepLoc					4390	3520	
VslStblz	4050	4050					
VSMiEx	3340	3340					
VSMiExSz	3350	3350					
VSMiExTy	3330	3330					
VSMiImTy	3300	3300	1740	1740			
VSMitRLeafDeb						3530	
VSMitRLeafPlic						3525	
VSMitRMitOth						3595	
VSMitRMLeafClip						3575	
VSNeoChNum					4400	3555	

ShortName	2.35	2.41	2.52.1	2.61	2.73	2.81	2.9
VSPuEx	3460	3460					
VSPuExSz	3470	3470					
VSPuExTy	3450	3450					
VSPuImTy	3420	3420	1860	1860			
VSTrEx	3400	3400					
VSTrExSz	3410	3410					
VSTrExTy	3390	3390					
VSTrImTy	3360	3360	1800	1800			
VTxDt			2100	2100	4930		
VTxDt2			2200	2200	5030		
VTxDt3			2280	2280	5130		
WndIntOpen					5960		
WndIntWVac					5970		