

The Society of Thoracic Surgeons Congenital Cardiac Surgery Database Data Quality Report

Participant ID: 88888

Wednesday, June 19, 2002

Note: This is only a **sample report**. The intent of this report is to show the types of checks and edits being performed at the data warehouse. Not all of these items will appear in a report generated for a specific participant since only the items that apply will be included. Since this sample report was generated using fabricated data, the record counts in one section may not be consistent with those in another section.

This Data Quality Report provides information about the submitted data file and the data that was accepted into the Congenital database, as well as any issues encountered with your data file or its submission.

- Review each section to ensure that your data is accurately represented in the Data Warehouse and use the report as a guide for making any necessary corrections or changes to your database.
- Suggestions for how to handle certain data issues are provided wherever you see “What To Do.” This information is added to help you prioritize your data review and clean-up efforts.
- If you have any questions about this report or any part of the submission process, please contact your designated DCRI Clinical Data Specialist:

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- When addressing questions to the Data Warehouse, please refer to the section and page of this document.
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Hospital Name Clarification Report

Participant ID: 88888

Please take care in completing this form. We are dependent on you for accurate information.

Important: This report MUST be completed and returned to the STS Data Warehouse in order to complete the process of the CURRENT harvest. Please make any changes needed directly on this form. All changes should be made in your database as well.

Listed below are the Hospital Names associated with your Participant ID from the data files that have been submitted within the past four years and will be used in the 2002 analyses.

One of the following option(s) must be circled for each Hospital Name listed:

- **No Change** – If the Hospital Name should be used in the analysis as it appears.
- **Change To** – Enter on the designated line the correct Hospital Name to be used in analysis.
 - Please spell out abbreviations.
 - Misspellings or name variations must be corrected.
 - Hospital Names that are “<Missing>” must be changed to the appropriate name.

Hospital Name as it appears in the Database	Circle one option	Current Facility/Hospital Name

Please sign and date the form below. Fax this completed form, along with the Analysis Sign-Off, to the STS Data Warehouse at (919) 668-7074 to complete the harvest process.

Signature: _____ Date: _____

Analysis Sign-Off Form

Participant ID: 88888

Date of File Submission: 04/10/2002

Data Submitted in the Current Data File:

Earliest Surgery Date: 01/01/1999

Latest Surgery Date: 02/26/2002

Total Number of Records: 1122

Data to Include from the Current Data File:

(Dates were obtained from the Harvest Verification Form)

Earliest Surgery Date: 01/01/1980

Latest Surgery Date: 12/31/2002

Total Number of Records: 1119

The range of data to include in analysis from the submitted data file is accurately indicated above under Data to Include from the Current Data File.

I have reviewed the most recent Data Quality Report and am satisfied that the data at the warehouse is as complete as possible at this time and accurately reflects the data at our site.

Yes, include the submitted data file in the 2002 analysis.

No, do not include the submitted data file in the 2002 analysis.

Name printed: _____

Signature: _____

Today's Date: _____

Please fax this page, along with the Hospital Name Clarification Report, to the STS Data Warehouse at (919) 668-7074 to complete the harvest process.

Thank you.

Harvest Summary:

This section contains a general summary of the data file that has been received by the Data Warehouse.

What to do:

- Review record counts and dates to confirm that the data received represents what you intended to submit.
- *For the current harvest:* If you notice that there are any discrepancies that impact the quality or limit the extent of your harvested data file, contact your Clinical Data Specialist.

- **Characteristics of the Raw Data File:**

The minimum and maximum surgery dates in your data file as determined by the Data Warehouse are shown below along with the total number of operation records submitted. Please note that this does not necessarily represent the actual data accepted into the warehouse database (see below).

Minimum Surgery Date	Maximum Surgery Date	Record Count
01/01/1999	02/26/2002	1122

- **Characteristics of the Data Accepted into the STS Congenital Database:**

Records from your raw data file are accepted into the Database if they contain a valid Surgery Date and if they are within the dates you specified on the Harvest Verification Form as the "Earliest and Latest Surgery Dates to be Used." These Specified Dates are shown below along with the number of records accepted into the Database according to these criteria.

Specified Minimum Date	Specified Maximum Date	Record Count
01/01/1980	12/31/2002	1119

- **Reason(s) Observations were Not Accepted into the STS Congenital Database:**

See the Itemized Observations Appendix for a list of each observation not accepted into the database.

Reason	Count
Invalid Data Version	1
Missing Surgery Date	1
Observations outside of harvest window	1
Total of observations not accepted into database	3

- **Characteristics of the Data Eligible for Analysis:**

This shows the total count of records from your data file that are eligible for analysis and inclusion in the National Reports. An observation is eligible for analysis if it was accepted into the Database (see above) and it has a valid Date of Birth and a valid Age.

Record Count
1112

- **Reason(s) Observations were Not Eligible for Analysis:**
See the Itemized Observations Appendix for a list of each observation not eligible for analysis.

Reason	Count
Missing valid Age and DOB	10
Total of observations not eligible for analysis	10

Summary of Data Accepted into the STS Congenital Database:

This section summarizes the observations that were accepted into the Congenital database. Records that were not accepted due to missing or incorrect information (see Harvest Summary) are not included in these counts. Counts by surgery year and data version are provided to assist you in assessing your data quality status and targeting your data cleanup effort by year and data version.

What to do:

- Review this information to ensure that it accurately represents what you intended to submit. If there are any discrepancies that impact the quality or limit the extent of your harvested data file, contact your clinical data specialist.
 - For issues potentially related to your software, contact your vendor for assistance prior to the next harvest.
 - Remember that using data collected on versions of software not approved by the STS may result in data quality issues and in records not being accepted into the Data Warehouse.
-

- **Number of Operation Records per surgery year:**

This section displays the number of operation records for each year of surgery.

Year	Count
1999	272
2000	392
2001	412
2002	43

- **Number of Operative Mortalities per surgery year:**

Please note that operative mortality data is critical to reporting and analysis of the STS database. See the Itemized Observations Appendix for a list of each observation with operative mortality.

What to do:

- *For the Current Harvest:* Compare these counts to your database to ensure that your data for this important field is accurately represented in the STS database. If you find any discrepancies, correct any errors in your data and contact your clinical data specialist.

Year	Count
1999	23
2000	39
2001	53
2002	0

- **Number of Operations for each Operation Type per surgery year:**

This is a count by surgery year for the six different Operation Types (OpType values). You should compare these counts of each Operation Type to that from your database. If there are any discrepancies that impact the quality or limit the extent of your harvested data file, they should be corrected and your data file resubmitted along with a new Harvest Verification Form.

Year	Operation Type	Count
1999	1. CPB	186
1999	2. No CPB Cardiovascular	54
1999	3. ECMO	16
1999	4. Thoracic	12
1999	5. Interventional Cardiology	2
1999	6. Other	2
2000	1. CPB	287
2000	2. No CPB Cardiovascular	75
2000	3. ECMO	8
2000	4. Thoracic	16
2000	5. Interventional Cardiology	4
2000	6. Other	2
2001	1. CPB	303
2001	2. No CPB Cardiovascular	80
2001	3. ECMO	10
2001	4. Thoracic	14
2001	5. Interventional Cardiology	4
2001	6. Other	1
2002	1. CPB	29
2002	2. No CPB Cardiovascular	8
2002	3. ECMO	3
2002	4. Thoracic	2
2002	5. Interventional Cardiology	0
2002	6. Other	1

- **Number of Operation Records for each Data Version per surgery year:**

"Raw Data Version value" shows what was contained in the data version field in your data file and "Interpreted Data Version value" shows the version recognized by the Data Warehouse.

What to do:

- *For the Next Harvest:* If any non-matching interpretations are indicated below, contact your vendor to ensure that the data version field is correctly populated for each observation. For this harvest only, the warehouse assumes missing Raw Data Version values to be version 2.22. However, for future harvests, observations with a missing or invalid Raw Data Version value will not be accepted into the database.

Year	Raw Data Version value	Interpreted Data Version value	Count
1999	<missing>	2.23	272
2000	V2.23	2.23	392
2001	2.23	2.23	412

- **Number of Operation Records for each Data Version per surgery year:**

"Raw Data Version value" shows what was contained in the data version field in your data file and "Interpreted Data Version value" shows the version recognized by the Data Warehouse.

What to do:

- *For the Next Harvest:* If any non-matching interpretations are indicated below, contact your vendor to ensure that the data version field is correctly populated for each observation. For this harvest only, the warehouse assumes missing Raw Data Version values to be version 2.22. However, for future harvests, observations with a missing or invalid Raw Data Version value will not be accepted into the database.

Year	Raw Data Version value	Interpreted Data Version value	Count
2002	2.23	2.23	43

- **Number of Operation Records for each distinct Surgeon Name:**

This indicates the number of different surgeon names found in your data file. Surgeon names are encrypted at the Warehouse to protect confidentiality, and the Warehouse assigns a random code letter to each distinct name. Note that a surgeon may appear to be multiple surgeons due to misspellings or variations on a name. For example, "Bob Jones", "Robert Jones" and "R. Jones" would encrypt as three different entries. Ideally this should be a drop down box in your software to prevent the need for manual data entry in this field. Your software vendor can assist you with these issues.

What to do:

- *For the Next Harvest:* Compare these counts to your records to ensure that the Warehouse data indicates the correct number of individual surgeons. Duplication of names and misspellings should be corrected.

Surgeon Name Code	Count
<Missing>	66
A	2
B	12
C	1
D	1
E	11
F	2
G	2
H	2
I	529
J	1
K	465
L	19
M	6

- **Number of Operation records for each distinct Vendor ID:**

Vendor ID	Count
MySoftware	1119

Issues with Submission of the Data File:

Issues indicated in this section typically relate to systematic issues with your software. These are generally problems that you should address with and have corrected by your software vendor.

What to do:

- *Before the next harvest:* Review the issues shown and contact your software vendor to correct any problems.

- **The name of the data file that was submitted to the Warehouse was incorrect.**

Incorrect file names require manual intervention and delay data processing as well as reporting to your site.

What to do:

- *For the Next Harvest:* Ensure that future data files are sent with the correct name indicated below.

Submitted Name	Correct Name
88888.txt	88888con.dat

- **The data file submitted to the Warehouse contained patient identifiers.**

In order to protect patient confidentiality, your data should be submitted without any identifying information. Identifiers include Patient First and Last Name.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that patient identifiers are excluded in future harvests.

- **The following core fields were not included in the data file submitted to the Warehouse:**

Core fields are important for the National Report and risk models. Even if you do not collect data for these fields, they should still be included in your software and data file.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that all core fields are included in your software export and harvest transmissions.

Field Name
AgeDays
Surgeon
Race
ReOpInAdm

- **The submitted data file contained invalid Operation IDs in related tables:**

Each Risk Factors, Diagnosis, Procedures, and Complications record has an Operation ID field that the Warehouse needs to determine which Operation it relates to. Below, the Table Name specifies a table related to the Operations table and Count indicates number of records it contains with a missing or invalid Operation ID. Please note that records with an invalid or missing Operation ID are not transferred to the STS Congenital Database. See the Itemized Observations Appendix for a list of each record deleted to due an invalid or missing Operation ID.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that all tables related to the Operations table contain valid Operation IDs.

Table Name	Count
Complications	1
Diagnosis	1
Procedures	1
Risk Factors	1

- **The submitted data file contained invalid Patient IDs in related tables:**

Each Operations and NC Abnormality record has a Patient ID field that links it with the appropriate Demographics record. Below, the Table Name specifies a table related to the Demographics table and Count indicates number of records it contains with a missing or invalid Patient ID. Please note that records with an invalid or missing Patient ID are not transferred to the STS Congenital Database. See the Itemized Observations Appendix for a list of each record deleted due to an invalid or missing Patient ID.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that all tables related to the Demographics table contain valid Patient IDs.

Table Name	Count
NC Abnormality	1
Operations	1

- **The submitted Operations data is missing related records:**

Each Operations record should be associated with one or more record in the Risk Factors, Diagnosis, Procedures, and Complications tables. The table below lists the number of Operation records missing a related record in the specified table. See the Itemized Observations Appendix for a list of the Operation records missing records in one or more of these related tables.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that each Operation record has at least one associated record in the Risk Factors, Diagnosis, Procedures, and Complications tables.

Missing Record	Count
Complications	9
Risk Factors	6

- **The submitted Demographics data is missing related records:**

Each Demographics record should be associated with one or more record in the NC Abnormality table. The table below lists the number of Demographics records missing a related record in the specified table. See the Itemized Observations Appendix for a list of the Demographics records missing related records.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that each Demographics record has at least one associated record in the NC Abnormality table.

Missing Record	Count
NCAbnormality	10

Edits performed on your raw data in the STS Congenital Database:

The Data Warehouse performs certain edits on harvested data. These edits are based on established rules and increase the consistency and analyzability of the data without requiring sites to change data and resubmit the file for the current harvest. This information is provided to you so that you are aware that changes have been made at the Warehouse and that the Warehouse data will be different from your site database.

What to do:

- Review these edits for accuracy and, as needed, make the same changes in your database. If edits performed by the Warehouse impact the accuracy of your data, corrections should be made in your database and you should contact your Clinical Data Specialist.

- Consistency Edits: The following field values were modified to make them consistent with other field values on the data record.**

Consistency edits are performed on a field after comparison between the field and one or more related fields. For example, if Mortality Discharge Status is "Alive" or missing, but Mortality Date is specified and it is between the Admit and Discharge Dates, Mortality Discharge Status is changed to "Dead" at the Data Warehouse. A full listing of the consistency edit checks can be found on the STS web site at www.sts.org. See the Itemized Observations Appendix for a list of each observation affected by consistency edits.

What to do:

- For the Next Harvest:* Make the same edits in your database as needed to synchronize your database with the STS database.

Data Version	Surgery Year	Field Name	Count
2.23	1999	AgeDays	9
2.23	2000	AgeDays	10
2.23	2001	AgeDays	4
2.23	2002	AgeDays	4

- Parent/Child Edits: The following field values were modified as a result of a parent/child relationship with other fields on the data record.**

Parent/Child edits are performed on a parent field if a related child field indicates that the parent should be Yes. For example, if OpType (a parent field) is not "CPB" but CPBTm or DHCATm (a child field) is specified, OpType is changed to "CPB" at the Data Warehouse. A full listing of the parent/child relationships can be found on the STS web site at www.sts.org. See the Itemized Observations Appendix for a list of each observation affected by parent/child edits.

What to do:

- For the Next Harvest:* Contact your vendor to have the parent/child dependency relationships reviewed and have your data corrected.

Data Version	Surgery Year	Field Name	Count
2.23	2000	OpType	1

Data Information and Completeness Issues:

This section identifies important field-specific data quality issues that affect the completeness of your harvest and may impact analysis and reporting of your data in the National Report. The data version and surgery year are shown for each issue to help you target and prioritize your data review and clean-up activity.

Information on missing data, when present, is divided into three categories based on relative field priority. For certain fields, the threshold for reporting missing is set at anything greater than 0% due to the importance of the field. From there missing values are reported at 5% and 20% thresholds depending upon the priority of the field. These thresholds are given to help you prioritize your data review and clean-up efforts.

- **The following fields are missing a value for more than 0% of data records.**

The percentage of missing data for the following fields warrants further review. These fields were assigned a threshold of 0% due to their relative importance.

Data Version	Surgery Year	Field Name	% Missing
2.23	1999	DataVrsn_IN	100%
2.23	1999	MortCase	64.4%
2.23	1999	MtDCStat	1.1%
2.23	1999	ReOpAftrOpInAdm	67.6%
2.23	1999	ReOpInAdm	29.8%
2.23	1999	Surgeon	.4%
2.23	1999	VendorID	100%
2.23	2000	AgeDays	1%
2.23	2000	DataVrsn_IN	100%
2.23	2000	MortCase	77.6%
2.23	2000	Mt30Stat	1%
2.23	2000	MtDCStat	1%
2.23	2000	MtOpD	1%
2.23	2000	ReOpAftrOpInAdm	48%
2.23	2000	ReOpInAdm	28.8%
2.23	2000	Surgeon	7.1%
2.23	2000	VendorID	100%
2.23	2001	AgeDays	1.2%
2.23	2001	DataVrsn_IN	100%
2.23	2001	MortCase	56.1%
2.23	2001	Mt30Stat	1.7%
2.23	2001	MtDCStat	1.5%
2.23	2001	MtOpD	1.5%
2.23	2001	ReOpAftrOpInAdm	8.3%
2.23	2001	ReOpInAdm	9%
2.23	2001	Surgeon	8.7%
2.23	2001	VendorID	100%
2.23	2002	AgeDays	2.3%
2.23	2002	DataVrsn_IN	100%

- **The following fields are missing a value for more than 0% of data records.**
The percentage of missing data for the following fields warrants further review. These fields were assigned a threshold of 0% due to their relative importance

Data Version	Surgery Year	Field Name	% Missing
2.23	2002	MortCase	60.5%
2.23	2002	Mt30Stat	14%
2.23	2002	MtDCStat	14%
2.23	2002	MtOpD	14%
2.23	2002	ReOpAftrOpInAdm	14%
2.23	2002	ReOpInAdm	11.6%
2.23	2002	Surgeon	9.3%
2.23	2002	VendorID	100%

- **The following fields are missing a value for more than 5% of data records.**
The percentage of missing data for the following fields warrants further review. These fields were assigned a threshold of 5% due to their relative importance.

Data Version	Surgery Year	Field Name	% Missing
2.23	1999	CPBTm	16.8%
2.23	1999	DHCATm	36.8%
2.23	1999	HeightCm	24.7%
2.23	1999	WeightKg	16%
2.23	1999	XClampTm	20%
2.23	2000	CPBTm	9.8%
2.23	2000	DHCATm	59.2%
2.23	2000	HeightCm	24.7%
2.23	2000	WeightKg	17.6%
2.23	2000	XClampTm	20.1%
2.23	2001	CPBTm	16.2%
2.23	2001	DHCATm	30.1%
2.23	2001	HeightCm	23.3%
2.23	2001	WeightKg	14.1%
2.23	2001	XClampTm	17.3%
2.23	2002	CPBTm	17.4%
2.23	2002	DHCATm	17.4%
2.23	2002	DischDt	16.3%
2.23	2002	HeightCm	20.9%
2.23	2002	MtDate	97.8%
2.23	2002	WeightKg	14%
2.23	2002	XClampTm	17.4%

- **The following fields are missing a value for more than 20% of data records.**
The percentage of missing data for the following fields warrants further review. These fields were assigned a threshold of 20% due to their relative importance.

Data Version	Surgery Year	Field Name	% Missing
2.23	1999	AntDiag	96.7%
2.23	1999	IntubateDT	99.3%
2.23	1999	PrvCtOpN	40%
2.23	1999	PrvOCtOpN	40.7%
2.23	2000	AntDiag	49.7%
2.23	2000	IntubateDT	58.9%
2.23	2000	PrvCtOpN	41.1%
2.23	2000	PrvOCtOpN	39.8%
2.23	2001	AntDiag	27.9%
2.23	2001	IntubateDT	45.4%
2.23	2002	AntDiag	25.6%
2.23	2002	IntubateDT	34.9%

- **The following fields contained values that could not be interpreted.**
Any values unable to be interpreted are set to missing in the STS Congenital database. See the Itemized Observations Appendix for a list of each observation affected by the edit.

<u>What to do:</u>
<ul style="list-style-type: none"> • <i>For the Next Harvest:</i> Review these fields for nonstandard values and make corrections in your database where appropriate. Note that you may need to consult your software vendor to correct the manner in which your data is collected or harvested. If these discrepancies impact the quality or limit the extent of your harvested data file, contact your Clinical Data Specialist.

Data Version	Surgery Year	Field Name	Count
2.23	1999	HeightCm	1
2.23	1999	OpType	8
2.23	1999	Procedure	1
2.23	2000	IntubateDT	1
2.23	2000	OpType	8
2.23	2000	Procedure	4
2.23	2001	Diagnosis	8
2.23	2001	OpType	5
2.23	2001	Procedure	4

- **The following inconsistencies were found in the data.**

The Data Warehouse reviews data for certain inconsistencies, such as dates out of chronological order (e.g., a Discharge Date that is earlier than the Admit Date). See the Itemized Observations Appendix for a list of each observation with data inconsistencies.

<p><u>What to do:</u></p> <ul style="list-style-type: none"> • <i>For the Next Harvest:</i> Review and correct these inconsistencies.
--

Data Version	Surgery Year	Inconsistency	Count
2.23	1999	Bypass and cross clamp times are inconsistent	6
2.23	2000	Bypass and cross clamp times are inconsistent	8
2.23	2000	Dates are out of sequence	3
2.23	2000	Number of prior open and total cardiothoracic operations are inconsistent	2
2.23	2001	Bypass and cross clamp times are inconsistent	7

Appendix: Itemized Observations

This section is designed to help participants identify the specific records with data quality issues as previously described in this report. Use this list to identify problems that need to be corrected in your database. The displayed identifier may be used to locate the specific record in your database. If you are unable to locate the displayed identifier field in your database, contact your vendor for assistance.

- Operation Records Not Accepted into the Database:**

The following records were not accepted into the STS Congenital Database due to the indicated reason. Please note that due to the potentially large number of records outside of the harvest window, the reason “Observations outside of the harvest window”, which may or may not pertain to your data file, is not itemized below.

Reason not Accepted into the Database	Operation ID
Invalid Data Version	100
Missing Surgery Date	101

- Operation Records Not Eligible for Analysis:**

The following records were not eligible for Analysis of the STS Congenital Database due to the indicated reason.

Reason not Eligible for Analysis	Operation ID
Missing valid Age and DOB	21545
Missing valid Age and DOB	21645
Missing valid Age and DOB	22291
Missing valid Age and DOB	22609
Missing valid Age and DOB	23442
Missing valid Age and DOB	23666
Missing valid Age and DOB	23856
Missing valid Age and DOB	23857
Missing valid Age and DOB	24070
Missing valid Age and DOB	24096

- Operation Records indicating Operative Mortality:**

The following records represent the operative mortalities in the data submitted as determined by the Warehouse. If there are any discrepancies between this list and the data in your database, determine the cause, make any corrections and contact your Clinical Data Specialist.

Surgery Year	Operation ID
1999	21335
1999	22005
1999	22022
1999	22029
1999	22030
1999	22032
1999	22036
1999	2218
1999	22272

- **Operation Records indicating Operative Mortality:**

The following records represent the operative mortalities in the data submitted as determined by the Warehouse. If there are any discrepancies between this list and the data in your database, determine the cause, make any corrections and contact your Clinical Data Specialist.

Surgery Year	Operation ID
1999	22710
1999	2799
1999	4013
1999	4014
1999	4015
1999	4310
1999	433
<hr/>	
2000	21457
2000	21462
2000	21484
2000	21490
2000	21623
2000	21683
2000	21915
2000	21917
2000	21929
2000	21944
2000	22053
2000	22158
2000	22307
2000	22308
2000	22344
2000	22349
<hr/>	
2001	22904
2001	22907
2001	22909
2001	22917
2001	23003
2001	23006
2001	23027
2001	23079
2001	23250
2001	23266
2001	23369
2001	23465
2001	23482
2001	23568
2001	23575

- **Operation Records indicating Operative Mortality:**

The following records represent the operative mortalities in the data submitted as determined by the Warehouse. If there are any discrepancies between this list and the data in your database, determine the cause, make any corrections and contact your Clinical Data Specialist.

Surgery Year	Operation ID
2001	23577
2001	23606
2001	23687
2001	23688
2001	23712
2001	23747
2001	23751
2001	23753
2001	23754
2001	23762

- **Records with Invalid Operation IDs:**

Each Risk Factors, Diagnosis, Procedures, and Complications record has an Operation ID field that allows the Warehouse to determine which Operation it relates to. Listed below are records that are missing an Operation ID or have an Operation ID that does not exist in the Operations table. Please note that records with an invalid or missing Operation ID are not transferred to the STS Congenital Database. Table Name, ID Field, and ID Value identify the table and record that contains the indicated Invalid Operation ID.

<u>What to do:</u>
<ul style="list-style-type: none"> • <i>For the Next Harvest:</i> Contact your vendor to ensure that all tables related to the Operations table contain valid Operation IDs.

Table Name	ID Field	ID Value	Invalid Operation ID
Complications	CompUniqueID	800	105
Diagnosis	DiagUniqueID	600	105
Procedures	ProcUniqueID	700	105
Risk Factors	RFUniqueID	500	105

- **Records with Invalid Patient IDs:**

Each Operations and NC Abnormality record has a Patient ID field that allows the Warehouse to determine which Demographics record it relates to. Listed below are records that are missing a Patient ID or have a Patient ID that does not exist in the Demographics table. Please note that records with an invalid or missing Patient ID are not transferred to the STS Congenital Database. Table Name, ID Field, and ID Value identify the table and record that contains the indicated Invalid Patient ID.

<u>What to do:</u>
<ul style="list-style-type: none"> • <i>For the Next Harvest:</i> Contact your vendor to ensure that all tables related to the Demographic table contain valid Patient IDs.

Table Name	ID Field	ID Value	Invalid Patient ID
NC Abnormality	NCAUniqueID	640	210
Operations	OperationID	510	210

- **Operations records missing related records:**

Each Operations record should be associated with one or more record in the Risk Factors, Diagnosis, Procedures, and Complications tables. The table below lists the Operation ID of Operation records missing a related record in the specified table.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that each Operation record has at least one associated record in the Risk Factors, Diagnosis, Procedures, and Complications tables.

Operation ID	Missing Record
1018	Complications
1058	Complications
1243	Complications
1243	Risk Factors
1244	Complications
1244	Risk Factors
1290	Complications
1290	Risk Factors
1364	Complications
1364	Risk Factors
140	Complications
1421	Complications
1421	Risk Factors
1422	Complications
1422	Risk Factors

- **Demographics records missing related records:**

Each Demographics record should be associated with one or more record in the NC Abnormality table. The table below lists the Patient ID of Demographics records missing a related record in the specified table.

What to do:

- *For the Next Harvest:* Contact your vendor to ensure that each Demographics record has at least one associated record in the NC Abnormality table.

Patient ID	Missing Record
1049	NCAbnormality
1061	NCAbnormality
1258	NCAbnormality
1279	NCAbnormality
1325	NCAbnormality
1350	NCAbnormality
141	NCAbnormality
1439	NCAbnormality
1623	NCAbnormality
183	NCAbnormality

- **Itemized Consistency Edits: The following field values were modified to make them consistent with other field values on the data record.**

Consistency edits are performed on a field after comparison between the field and one or more related fields. A full listing of the consistency edit checks can be found on the STS web site at www.sts.org. The table indicates each observation with a consistency edit, where the Submitted Value was changed to the New Value.

<u>What to do:</u>						
<ul style="list-style-type: none"> • <i>For the Current Harvest:</i> If these consistency edits were incorrectly made at the Warehouse due to data entry errors in other fields, make any necessary changes in your database and contact your Clinical Data Specialist. • <i>For the Next Harvest:</i> Make the same edits in your database to synchronize it with the STS database. 						

Data Version	Surgery Year	Field Name	ID Field	ID Value	Submitted Value	New Value
2.23	1999	AgeDays	OperationID	1018	<missing>	94
2.23	1999	AgeDays	OperationID	1029	<missing>	9
2.23	1999	AgeDays	OperationID	1058	<missing>	81
2.23	1999	AgeDays	OperationID	1243	<missing>	464
2.23	1999	AgeDays	OperationID	1244	<missing>	465
2.23	1999	AgeDays	OperationID	1290	<missing>	29
2.23	1999	AgeDays	OperationID	1364	<missing>	4184
2.23	1999	AgeDays	OperationID	140	<missing>	87
2.23	2000	AgeDays	OperationID	21364	<missing>	6202
2.23	2000	AgeDays	OperationID	21369	<missing>	531
2.23	2000	AgeDays	OperationID	21384	<missing>	462
2.23	2000	AgeDays	OperationID	21392	<missing>	462
2.23	2000	AgeDays	OperationID	21396	<missing>	911
2.23	2000	AgeDays	OperationID	21400	<missing>	38
2.23	2000	AgeDays	OperationID	21404	<missing>	178
2.23	2000	AgeDays	OperationID	21405	<missing>	1788
2.23	2000	AgeDays	OperationID	21406	<missing>	5
2.23	2000	AgeDays	OperationID	21407	<missing>	3293
2.23	2001	AgeDays	OperationID	22884	<missing>	178
2.23	2001	AgeDays	OperationID	22887	<missing>	1041
2.23	2001	AgeDays	OperationID	24220	<missing>	148
2.23	2001	AgeDays	OperationID	24238	<missing>	1012
2.23	2002	AgeDays	OperationID	24080	<missing>	5
2.23	2002	AgeDays	OperationID	24082	<missing>	1368
2.23	2002	AgeDays	OperationID	24233	<missing>	491
2.23	2002	AgeDays	OperationID	24247	<missing>	1776

- Itemized Parent/Child Edits: The following field values were modified as a result of a parent/child relationship with other fields on the data record.**

Parent/Child edits are performed on a parent field if a related child field indicates that the parent should be yes. A full listing of the parent/child relationships can be found on the STS web site at www.sts.org. This table indicates each observation with a parent/child edit.

<u>What to do:</u>				
<ul style="list-style-type: none"> <i>For the Current Harvest:</i> If these parent/child edits were incorrectly made at the Warehouse due to data entry errors in other fields, make any necessary changes in your database and contact your Clinical Data Specialist. <i>For the Next Harvest:</i> Make the same edits in your database to synchronize it with the STS database. 				

Data Version	Surgery Year	Field Name	ID Field	ID Value
2.23	2000	OpType	OperationID	825

- Observations with values not interpreted.**

Any values unable to be interpreted are set to missing in the STS Congenital database.

<u>What to do:</u>					
<ul style="list-style-type: none"> <i>For the Current Harvest:</i> Review these fields for nonstandard values. Note that you may need to consult your software vendor to correct the manner in which your data is collected or harvested. If the discrepancies impact the quality or limit the extent of your harvested data file, you should correct the data in your database and contact your Clinical Data Specialist. 					

Data Version	Surgery Year	Field Name	ID Field	ID Value	Submitted Value
2.23	1999	HeightCm	OperationID	5869	1890
2.23	1999	OpType	OperationID	1693	777
2.23	1999	OpType	OperationID	1819	777
2.23	1999	OpType	OperationID	22036	777
2.23	1999	OpType	OperationID	22178	777
2.23	1999	OpType	OperationID	23299	777
2.23	1999	OpType	OperationID	4014	777
2.23	1999	OpType	OperationID	6230	777
2.23	1999	OpType	OperationID	6363	777
2.23	1999	Procedure	ProcUniqueID	4061	0,90
2.23	2000	IntubateDT	OperationID	22203	08/04/2999 07:17
2.23	2000	OpType	OperationID	22055	777
2.23	2000	OpType	OperationID	22315	777
2.23	2000	OpType	OperationID	22318	777
2.23	2000	OpType	OperationID	22366	777
2.23	2000	OpType	OperationID	22409	777
2.23	2000	OpType	OperationID	22669	777
2.23	2000	OpType	OperationID	23330	777
2.23	2000	OpType	OperationID	23331	777

- **Observations with values not interpreted.**

Any values unable to be interpreted are set to missing in the STS Congenital database.

<u>What to do:</u>
<ul style="list-style-type: none"> • <i>For the Current Harvest:</i> Review these fields for nonstandard values. Note that you may need to consult your software vendor to correct the manner in which your data is collected or harvested. If the discrepancies impact the quality or limit the extent of your harvested data file, you should correct the data in your database and contact your Clinical Data Specialist.

Data Version	Surgery Year	Field Name	ID Field	ID Value	Submitted Value
2.23	2000	Procedure	ProcUniqueID	159991	0,160
2.23	2000	Procedure	ProcUniqueID	160951	0,90
2.23	2001	Diagnosis	DiagUniqueID	4874	330,1060
2.23	2001	Diagnosis	DiagUniqueID	5284	330,1060
2.23	2001	Diagnosis	DiagUniqueID	5490	330,1060
2.23	2001	Diagnosis	DiagUniqueID	5587	330,1060
2.23	2001	Diagnosis	DiagUniqueID	6227	330,1060
2.23	2001	Diagnosis	DiagUniqueID	7029	330,1060
2.23	2001	Diagnosis	DiagUniqueID	8742	330,1060
2.23	2001	Diagnosis	DiagUniqueID	8802	330,1060
2.23	2001	Procedure	ProcUniqueID	202991	0,210

- **Observations with inconsistencies:**

The following records contain the indicated inconsistencies, such as dates out of chronological order (e.g., a Discharge Date that is earlier than the Admit Date).

<u>What to do:</u>
<ul style="list-style-type: none"> • <i>For the Current Harvest:</i> Review and correct these inconsistencies and resubmit your data file along with a new Harvest Verification Form.

Inconsistency	Data Version	Surgery Year	ID Field	ID Value
Bypass and cross clamp times are inconsistent	2.23	1999	OperationID	1477
Bypass and cross clamp times are inconsistent	2.23	1999	OperationID	1787
Bypass and cross clamp times are inconsistent	2.23	1999	OperationID	21260
Bypass and cross clamp times are inconsistent	2.23	1999	OperationID	21266
Bypass and cross clamp times are inconsistent	2.23	1999	OperationID	4310
Bypass and cross clamp times are inconsistent	2.23	1999	OperationID	6014
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	21400
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	21642
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	21885
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	21956
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	22292
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	22316
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	22447

- **Observations with inconsistencies:**

The following records contain the indicated inconsistencies, such as dates out of chronological order (e.g., a Discharge Date that is earlier than the Admit Date).

<p><u>What to do:</u></p> <ul style="list-style-type: none"> • <i>For the Current Harvest:</i> Review and correct these inconsistencies and resubmit your data file along with a new Harvest Verification Form.
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Inconsistency	Data Version	Surgery Year	ID Field	ID Value
Bypass and cross clamp times are inconsistent	2.23	2000	OperationID	22657
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	23254
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	23426
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	23665
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	23767
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	23792
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	23887
Bypass and cross clamp times are inconsistent	2.23	2001	OperationID	24009
Dates are out of sequence	2.23	2000	OperationID	21819
Dates are out of sequence	2.23	2000	OperationID	21915
Dates are out of sequence	2.23	2000	OperationID	22307
Number of prior open and total cardiothoracic operations are inconsistent	2.23	2000	OperationID	22550
Number of prior open and total cardiothoracic operations are inconsistent	2.23	2000	OperationID	22561