

Learning Objectives:

Upon completion of this session, participant will be able to:

- Identify STS Educational Resources
- Understand how to read the Data and Software Specifications



Who is the STS Data Manager

- *Self Motivated*
- *Compulsive Attention to Detail*
- *Committed to the STS Objectives*
- *Flexible*
- *Computer Skills*



Why Are You Important?

As the data manager YOU are the key to data quality and integrity



LET THE GAMES BEGIN



Data Manager Resources

STS Website

Webinars

Mentorship Program

Advances in Quality Outcomes Conference (AQO)

Database News newsletter

ACSD– Regional groups





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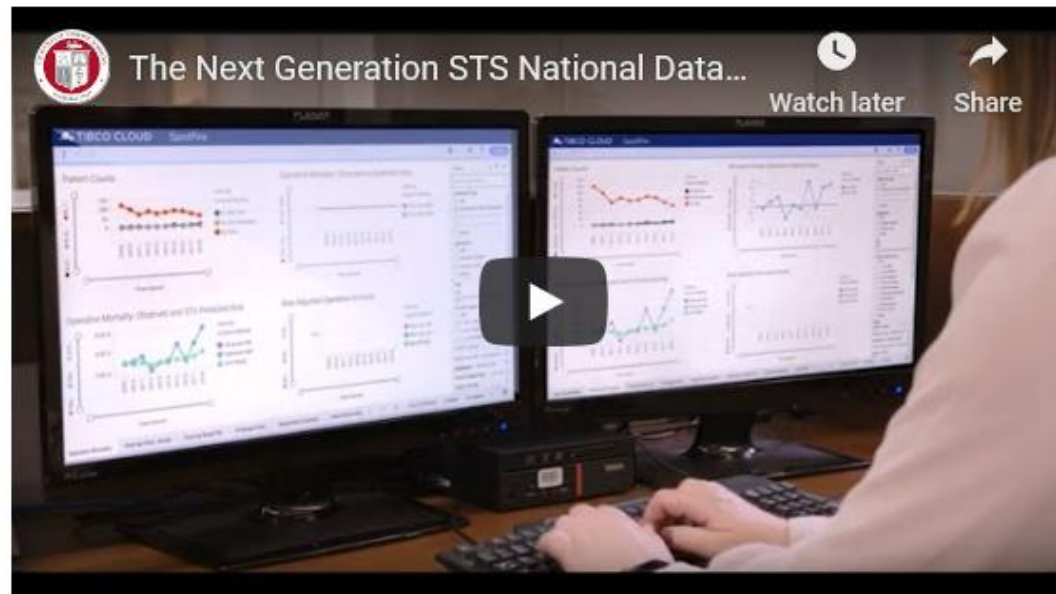
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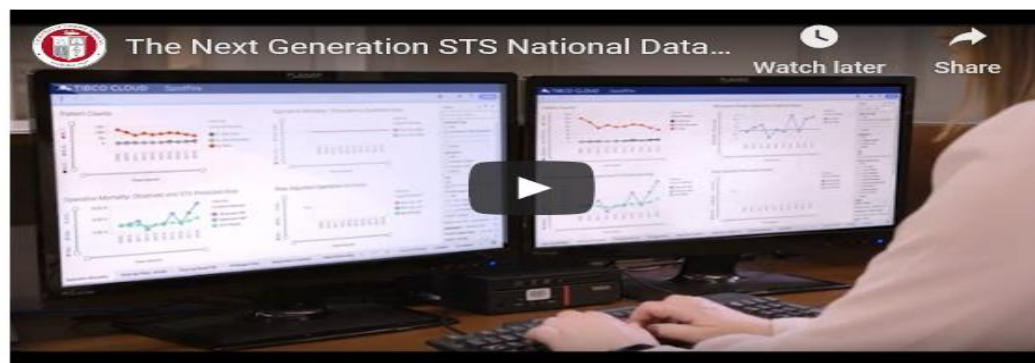
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Live Webinars

You are invited to participate in a series of live, monthly webinars to get an update on the exciting changes under way to the STS National Database. Registration is not required for the webinars, but you will need to sign in with your name and email address to participate.

The webinars will be recorded and available online within 48 hours from the [STS National Database Webinars](#) page.

Access FAQs

View Webinars



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Important Resources

[STS IQVIA Go-Live Checklist](#)

[Database Transition Resource](#)

[Data Manager Education](#)

[Harvest Schedule and Information](#)

[Database Forms](#)

[Merit-Based Incentive Payment System Reporting](#)

[Database Software and Vendors](#)

[Advances in Quality & Outcomes: A Data Managers Meeting](#)

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Data Manager Education

ACSD Dashboard Overview

Data Manager Mentorship Program

2019 Data Manager Survey Results

List of Mortality Status Fields

Tips for Collecting 30-Day Follow-Up Data

STS/IQVIA Uploader Instructions

How-To Videos

IQVIA Registry Dashboard - General Navigation Training



IQVIA Uploader and DQR Review



▼ Anatomical Diagrams

Coronary Anatomy

Valve Anatomy

Valve Repairs

Aortic Aneurysm

Aortic Dissection

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STS National Database Mentorship Program

The Society has launched an STS National Database mentorship program that will pair experienced data managers with those who are seeking advice related to data abstraction. After filling out a questionnaire, potential mentors and mentees will be matched based on Database type, experience in specific areas, and other factors. STS will share contact information with mentors and mentees to facilitate an ongoing mentorship relationship.



To apply as either a mentor or mentee, please fill out the appropriate form linked below. You will be notified once you have been matched.

If you have questions about the program or any feedback on the sign-up forms, contact [Emily Conrad](#).

Note: The opinions and advice provided through this mentorship program are those of its individual participants and do not necessarily reflect the views of The Society of Thoracic Surgeons.

[Apply to be a Mentor](#)[Apply to be a Mentee](#)



Advances in Quality & Outcomes: A Data Manager Meeting (AQO)

- Annual educational meeting for Data Managers of the STS National Database.
- Objective to improve data abstraction and coding skills.



AQO Update

AQO is going virtual

Same dates as originally planned

- 9/30-10/2

Each database will have dedicated time for live sessions

Platform to host the meeting

- Wide variety of functions
 - Live stream talks
 - Prerecorded material
 - E-posters
 - Q&A
 - Panel Discussions
 - Chat Boards
 - Vendor engagement
 - Other details still being worked out



Database News Newsletter

- The Database News newsletter is a newsletter dedicated to the STS National Database.
- Contains information on public reporting, data submission deadlines, meetings, and audits.
- The STS newsletter is available on the STS Data Manager Education page



Regional Benefits

Networking

Support

Quality Care

Fun

Sharing

Data Manager Education

Best Practice

Inter-rater Reliability

STS Role Orientation

Data Integrity

Mentoring

Problem Solve

Data Audits

Q.I.

STS Regional Groups by State Participation September 2014

19 Regions / 61 States
Adult Cardiac Surgery

Tennessee Regional Group
Established: 2011
Data Manager Members: 41
Contact: Linda Leake - linda.leake@tennesseeregional.com
Activities: Quarterly Conference Calls per year
Quarterly Newsletter

Delaware Valley Region
Established: 1998
Data Manager Members: 43
Contact: Teresa Madala, RN, BS, CPHQ - Teresa.Madala@valleyhealth.org
Activities: Data Manager & Combined Data Manager / Surgeon Meetings
2007: Site Data Audit Initiated
Website: www.dvstg.org

Florida Regional STS Data Manager's Group
Established: 2006
Data Manager Members: 43
Contact: Pam Chapin, RN
pamc@flregionalstsgroup.org
Activities: 2 Meetings and/or 2 Conference Calls per year

Illinois Regional STS Group
Established: 2009
Data Manager Members: 50
Contact: Gary Mangold, RN
gmangold@iprofnet.com
Cathy Spear, RN
cathy.spear@valleyhealth.com
Activities: Biannual Meetings

Maryland Cardiac Surgery Quality Initiative
Established: 2011
Data Manager Members: 20
Contact: Steve Ajaja, BA - sajaja@pmi.edu
Jennifer Bahoff, RN, BSN - jbahoff@northwesternhospital.com
Eddie Travers, BA, Executive Director, MCKCF - edtravers@mda.com
Activities: Monthly Conference Calls & Semi-Annual Meetings

Massachusetts/Rhode Island Regional Group
Established: 2002
Data Manager Members: 14
Contact: Jan Lovell, RN, MS
jlovell@med.harvard.edu
Activities: Meeting 4-6 times/year. Audit with State Mandated Public Reporting by Participation in data audit/education meetings with Surgeon Committee members.
Website: www.masscard.org

Minnesota STS Region
Established: 1994
Data Manager Members: 21
Contact: Terriene Rebecca Barlow, RN, MPH
terriene.barlow@healthpartners.com
Activities: Data Manager Meetings 3 times/year

Missouri/Kansas Regional Group
Established: 2001
Data Manager Members: 40 STS & ACC
Contact: Carol Kilgus, RN - ckilgus@missouri.edu
Activities: Biannual Meetings using Survey Monkey

Northwest STS Data Managers
Established: 2006
Data Manager Members: 35
Contact: Ben Kells - Ekkells@nwstg.com
Activities: TBA

Ohio Thoracic & Cardiovascular Data Management Group
Established: 2005
Data Manager Members: 131 STS & ACC
Contact: Tracy Miller - tracy.miller@centumstg.org
Activities: Annual Meeting - combined STS & ACC Agenda
Website: www.ostc.org

Rocky Mountain Regional STS Data Manager's Group
Established: 1996
Data Manager Members: 35
Contact: Elizabeth Jackson, RN, BSN
elizabethjackson@centumstg.com
Activities: Biannual Meetings

Southeastern Cardiac Data User Group
Established: 2010
Data Manager Members: 54 STS & ACC
Contact: Candice King, RN - cking@centumstg.org
Activities: Quarterly Data Manager Meetings
Website: www.secdug.org

Texas Regional Data Managers Network
Established: 2010
Data Manager Members: 52 (includes Oklahoma attendees)
Contact: Cathy Knoff, RN, MBA/BSM, MCHSP
cathy.knoff@valleyhealth.com
Activities: Annual Meetings

Virginia Cardiac Surgery Quality Initiative
Established: 1998
Data Manager Members: 20
Contact: Della Livorno, RN - dlivorno@vetnet.com
Tracy Quaker - tracy.quaker@valleyhealth.com
Lidie Travers, BA, Executive Director, MCKCF - lidie@mda.com
Activities: Monthly Conference Calls
Quarterly Combined Data Manager / Surgeon Meetings
Website: www.vstg.org

Wisconsin Data Manager Group
Established: 1994
Data Manager Members: 36
Contact: Rob Dreyer, RN, BSN - rob.dreyer@centumstg.org
Activities: Quarterly Conference Calls

Regional Groups



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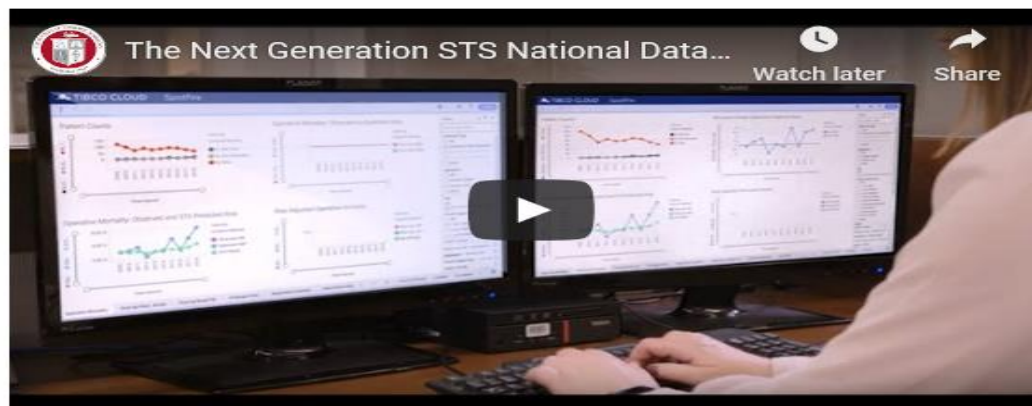
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Clinical Question Request Form

Are you struggling with a clinical question regarding data abstraction? Fill out the Clinical Question Request Form and get a response within 30 days.

[Ask a Question](#)

Ask a Question

Full Name *

Email *

Phone *

Participant ID #

Database Version *

State/Province *

Sequence #: *

Short Field Name:

IMPORTANT: FOR HIPAA COMPLIANCE PURPOSES, PLEASE NOTE THAT ANY PATIENT IDENTIFYING INFORMATION¹ SHOULD BE REDACTED FROM THIS SUBMISSION.

Question: *





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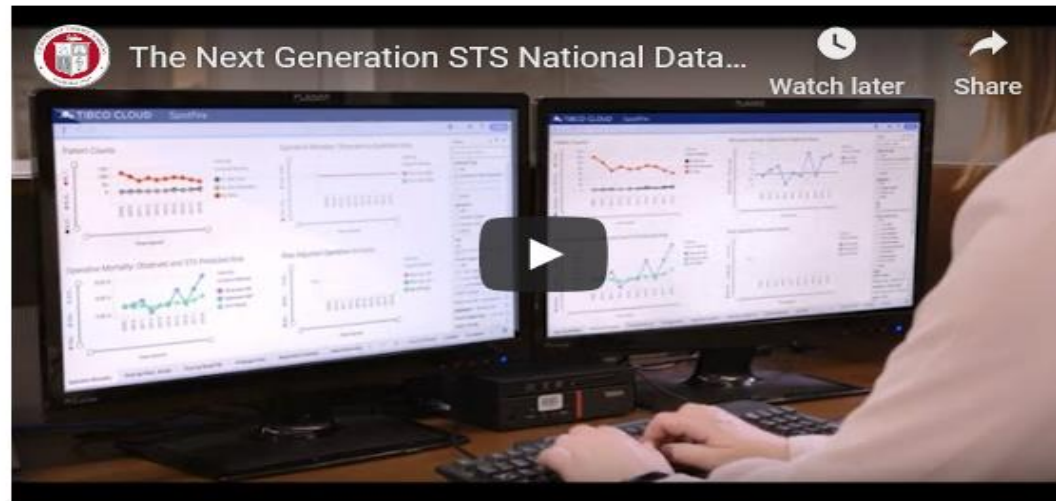
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Additional Resources on STS Website

- Data Collection Forms
- Training Manual
- Ask a Clinical Question
 - FAQ Updates



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STS Adult Cardiac Surgery Database

The STS Adult Cardiac Surgery Database (ACSD) is the world's premier clinical outcomes registry for adult cardiac surgery. Launched in 1989, the Database contains more than 6.5 million cardiac surgery procedure records and currently has nearly 3,800 participating physicians, including surgeons and anesthesiologists.


Data Collection

STS has compiled a training manual, data collection forms, and additional resources to aid in data collection for the Adult Cardiac Surgery Database.

[Access Data Collection Resources](#)



Data Collection Forms (DCF's)




The Society of Thoracic Surgeons
Adult Cardiac Surgery Database
Data Collection Form Version 2.9
February 13, 2017

A. Administrative
Participant ID: _____ Record ID: (software generated)
Patient ID: (software generated)
Patient participating in STS-related clinical trial:
 None Trial 1 Trial 2 Trial 3 Trial 4 Trial 5 Trial 6 (if not "None")

B. Demographics
Patient Last Name: _____ Patient First Name: _____
Date of Birth: ____/____/____ (mm/dd/yyyy) Patient Age: _____
National Identification (Social Security) Number Known: Yes No Refused (if Yes →) _____
Medical Record Number: _____
Street Address: _____ City: _____
Region: _____ ZIP Code: _____
Is This Patient's Permanent Address: Yes No Unknown
Is the Patient's Race Documented? Yes No Pt. Declined to Disclose
(If Yes →) Race: (Select all that apply →) White: Yes No
Black/African American: Yes No
Asian: Yes No
Hispanic, Latino or Spanish Ethnicity: Yes No Not Documented

C. Hospitalization
Hospital Name: _____ (If Not Missing →) Hospital ZIP Code: _____
Hospital National Provider Identifier: _____ Hospital CMS Certification Number: _____
Primary Payer: (Choose one) (If Primary Payer → None/Self)
 None/Self Medicare (includes commercially managed options) Medicare
 Medicaid (includes commercially managed options) Medicaid
 Military Health Military Health
 Indian Health Service Indian Health Service
 Correctional Facility Correctional Facility
 State Specific Plan State Specific Plan
 Other Government Insurance Other Government Insurance
 Commercial Health Insurance Commercial Health Insurance
 Health Maintenance Organization Health Maintenance Organization
 Non -U.S. Plan Non -U.S. Plan
 Charitable care/ Foundation Funding Charitable care/ Foundation Funding
(if Medicare →) Primary Payer Medicare Fee for Service: Yes No (if Medicare →) Secondary Payer: _____
Admit Date: ____/____/____ (mm/dd/yyyy) Date of Surgery: ____/____/____
Admit Source: Elective Admission Emergency Department Transfer in from another hospital

Non-
Annotated
DCF



The Society of Thoracic Surgeons
Adult Cardiac Surgery Database
Data Collection Form Version 2.9
February 13, 2017

A. Administrative
Participant ID: _____ Record ID: (software generated) STS Cost Link: _____
PartID (25) RecordID (30) CostLink (35)
Patient ID: (software generated)
PatID (40)
Patient participating in STS-related clinical trial:
ClinTrial (45) Clinical trial patient ID: _____
 None Trial 1 Trial 2 Trial 3 Trial 4 Trial 5 Trial 6 (if not "None" →) ClinTrial/PatID (46)

B. Demographics
Patient Last Name: _____ Patient First Name: _____ Patient Middle Name: _____
PatName (50) PatFName (55) PatMName (60)
Date of Birth: ____/____/____ (mm/dd/yyyy) Patient Age: _____ Sex: Male Female
DOB (65) Age (70) Gender (75)
National Identification (Social Security) Number Known: Yes No Refused (if Yes →) National ID Number: _____
SSNknown (76) SSN (80)
Medical Record Number: _____
MedRech (85)
Street Address: _____ City: _____
PatAddr (90) PatCity (95)
Region: _____ ZIP Code: _____ Country: _____
PatRegion (100) PatZIP (105) PatientCountry (115)
Is This Patient's Permanent Address: Yes No Unknown
PermAddr (120)
Is the Patient's Race Documented? Yes No Pt. Declined to Disclose
RaceDocumented (150)
(If Yes →) Race: (Select all that apply →) White: Yes No Am Indian/Alaskan: Yes No
RaceCaucasian (155) RaceNativeAm (170)
Black/African American: Yes No Hawaiian/Pacific Islander: Yes No
RaceBlack (160) RaceNativePacific (175)
Asian: Yes No Other: Yes No
RaceAsian (165) RaceOther (180)
Hispanic, Latino or Spanish Ethnicity: Yes No Not Documented
Ethnicity (185)

C. Hospitalization
Hospital Name: _____ (If Not Missing →) Hospital ZIP Code: _____ Hospital Region: _____
HospName (205) HospZIP (210) HospStat (215)
Hospital National Provider Identifier: _____ Hospital CMS Certification Number: _____
HospNPI (220) HospCMSCert (221)
Primary Payer: (Choose one) (If Primary Payer → None/Self) Secondary Payer: (Choose one)
PayerPrim (291) PayerSecond (293)
 None/Self Medicare (includes commercially managed options) Medicare
 Medicaid (includes commercially managed options) Medicaid
 Military Health Military Health
 Indian Health Service Indian Health Service

Annotated
DCF



Navigating the STS Website:

Adult Cardiac Surgery Database Data Collection

The STS Adult Cardiac Surgery Database is currently operating under version 2.9. Data collection forms, training manuals, and additional resources are available to assist in data collection. (Note: Anesthesia information is included in the version 2.9 training manual and data collection forms listed below.)

▼ Version 2.9

Effective July 1, 2017

Training Manual - Updated September, 2019

- [Training Manual](#)
- [FAQ Summary - September 2019](#)

Data Collection Forms (DCFs) - Updated February 13, 2017

- [Non-Annotated DCF](#)
- [Word Version Non-Annotated DCF](#)
- [Annotated DCF](#)

To view annotation in the non-annotated Word DCF, select File – Options – Display – Show Hidden Text. If you need further assistance, please contact your IT Department or do an internet search for your specific version of Office on ways to view hidden text.



STS Training Manuals

C. Hospitalization

Hospital Name: _____ (If Not Missing →) HospName (205)	Hospital ZIP Code: HospZIP (210)	Hospital Region: HospStat (215)
Hospital National Provider Identifier: _____ HospNPI (220)		
Payor – (Select all that apply!)		
Government Health Insurance: PayorGov (225) <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, select all that apply!)		
Medicare: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) PayorGovMcare (230)	Medicare Fee For Service: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovMcareFFS (240)	
Medicaid: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovMcaid (245)	Military Health Care: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovMil (250)	State-Specific Plan: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovState (255)
Indian Health Service: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovIHS (260)	Correctional Facility: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovCor (265)	Other Gov't. Plan: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorGovOth (270)
Commercial Health Insurance: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorCom (275)	Health Maintenance Organization: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorHMO (280)	
Non-U.S. Insurance: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorNonUS (285)	None / Self: <input type="checkbox"/> Yes <input type="checkbox"/> No PayorNS (290)	

SEQ. #: 205

Long Name: Hospital Name

Short Name: HospName

Definition: Indicate the full name of the facility where the procedure was performed. Values should be full, official hospital name as it appears on the contract with the STS, with no abbreviations or variations in spelling for a single hospital. Values should also be in mixed-case.



Navigating the STS Website:

Additional Resources

- [Short Names and Sequence Number Crosswalk: v2.35-v2.9](#)
- [Instructions to Sort Anesthesia Fields within 2017Q3 DQR \(Word document\)](#)
- [Itemized Changes from v2.81 to v2.9](#)
- [Data Specifications](#)
- [Software Specifications](#)
- [Congenital Diagnoses and Procedure List](#)
- [Procedure Identification Chart](#)
- [Risk Model Variable Chart](#)



Data Specifications

Long Name: RF-Renal Fail-Dialysis

SeqNo: 375

Short Name: Dialysis

Core: Yes

Section Name: Risk Factors

Harvest: Yes

DBTableName: Adultdata2

Definition: Indicate whether the patient is currently (prior to surgery) undergoing dialysis.

Data Source: User

Format: Text (categorical values specified by STS)

Harvest Codes:

Code: Value:

1 Yes

2 No

3 Unknown



Data Specifications - Parent Child Relationship

Diabetes: Yes No Unknown (If Yes →) Diabetes-Control: None Diet only Oral Insulin Other SubQ Other Unknown
Diabetes (360) *DiabCtrl (365)*

Long Name: RF-Diabetes-Control

SeqNo: 365

Short Name: DiabCtrl

Core: Yes

ParentShortName: Diabetes

ParentLongName: RF-Diabetes

ParentHarvestCodes: 1

ParentValues: = "Yes"



Data Specification

Long Name: Height (cm)

SeqNo: 330

Short Name: **HeightCm**

Core: Yes

Section Name: Risk Factors

Harvest: Yes

DBTableName: Adultdata1

Definition: Indicate the height of the patient in centimeters.

Data Source: User

Format: Real

Low Value: 20.0 High Value: 251.0 UsualRangeLow: 122.0 UsualRangeHigh: 213.0



Software Specifications – page 4

- Important Resource to be familiar with
- Dates of Versions

Surgery date	Data Specifications
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 June 30, 2020	2.9
July 1, 2020 through current date	4.20.2



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.

Software Specifications

– page 6

Describes how to read Data Specs



Data Specification

Long Name: Height (cm) *SeqNo:* 330
Short Name: **HeightCm** *Core:* Yes
Section Name: Risk Factors *Harvest:* Yes
DBTableName: Adultdata1
Definition: Indicate the height of the patient in centimeters.
Data Source: User **Format: Real**
Low Value: 20.0 *High Value:* 251.0 *UsualRangeLow:* 122.0 *UsualRangeHigh:* 213.0



Software Specs – page 11

- Record ID - unique numeric value that identifies the record in the database.
- Generated Software site by the STS. The codes will be in a format similar to “V01”.
- For example - V01000001

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 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.



Software Specs – page 14

- Points out what data can be imported into Vendor Data Form
- ADT Tool
- Reason we can't import more data is because of the importance of the data managers eyes on the data, the limitations of informatics on writing the correct code, especially when there are changes in definitions and between EMR versions and vendors

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:
 - Valve Explant Unique Device Identifier (UDI) [ValExpUDI]
 - Second Valve Explant Device Unique Device Identifier (UDI) [ValExpDevUDI]
 - VS-Aortic Proc-Imp - Unique Device Identifier (UDI) [VSAoImUDI]
 - VS-Mitral Proc-Imp-Unique Device Identifier (UDI) [VSMilmUDI]
 - VS-Tricuspid Proc-Imp-Unique Device Identifier (UDI) [VSTRImUDI]
 - Previous VAD Unique Device Identifier (UDI) [PrevVADUDI]
 - VAD-Implant Unique Device Identifier (UDI) [VImpUDI]
 - VAD-Implant Unique Device Identifier (UDI) #2 [VImpUDI2]
 - VAD-Implant Unique Device Identifier (UDI) #3 [VImpUDI3]
 - 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



Software Specs – page 16

- Parent Child Relationships

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, “Cerebrovascular Disease” is a parent field to its child “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 unavailable on the data entry screen. In the example above, only if “Cerebrovascular Disease” = “Yes” should “Prior CVA” be available for data entry.
- b. If a parent field indicates that no data should be in its dependent field, vendors must set all child fields to Null. Note that in prior versions of the Software Specifications, vendors had the option of setting child field values to “No” provided those fields were set to Null during data extract. This has caused parent/child issues to appear in site data, so this practice is no longer acceptable.**
- 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.**
- 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.



Software Specs – page 26

- Meld Score Calculation – system calculation must have INR, Total Bili, and Creatinine to calculate

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:

$$\text{MELDScr} = (3.8 \times \text{Ln}(\text{bilirubin_factor})) + (11.2 \times \text{Ln}(\text{inr_factor})) + (9.6 \times \text{Ln}(\text{creatinine_factor})) + 6.4$$

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



Appendix C: Calculation of Total Postoperative Initial Ventilation Hours

Starting with v4.20.2, software must be able to calculate the Total Postoperative Initial Ventilation Hours. The results of this calculation are entered by the software into the field “Total Postoperative Initial Ventilation Hour” (TotalPOInitVentHr). The value of this field is calculated by finding the number of **hours between “OR Exit Date and Time” (ORExitDT) and “Initial Extubation Date And Time” (ExtubateDT)**. ~~Value should be stored in decimal format with at least two decimal places. This value is zero for patients extubated in OR or not intubated for procedure (ExtubOR = Yes or N/A (not intubated)).~~

- If either ORExitDT or ExtubateDT are missing, TotalPOInitVentHr is left missing.
- The difference between ORExitDT and ExtubateDT must not be rounded.
- If ExtubOR=“Yes” or “N/A”, TotalPOInitVentHr must be set to zero.
- Final calculation should include at least two decimal places.





Appendix F: 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	4.20.2
AbxDisc				1347	2730	2290	2290	2290
AbxSelect				1345	2710	2280	2280	2280
AbxTiming				1346	2720	2285	2285	2285
AddIntraopPAnti						2295	2295	
ADevDelMeth01							5455	5455
ADevDelMeth02							5480	5480
ADevDelMeth03							5505	5505
ADevDelMeth04							5530	5530
ADevDelMeth05							5555	5555
ADevDelMeth06							5580	5580
ADevDelMeth07							5605	5605
ADevDelMeth08							5630	5630
ADevDelMeth09							5655	5655
ADevDelMeth10							5680	5680
ADevDelMeth11							5705	5705
ADevDelMeth12							5730	5730
ADevDelMeth13							5755	5755

Appendix F: Field Short Name and Seq Number by Data Version



Additional Resources



- Surgeon Worksheets
 - *Word versions of documents are available so sites can manipulate them to their needs. (surgeon worksheets and DCFs)*
- Congenital Diagnoses and Procedure List
- Procedure ID
- Risk Model Variable Chart

- Things no longer available:
 - Medications, Valve/VAD lists



Additional Resources – Surgeon Worksheets

Surgeon Worksheets

- [Procedures of the Aorta \[Word Version\]](#) (Revised August 8, 2017)
- [Aortic Valve \[Word Version\]](#)
- [Coronary Artery Bypass \[Word Version\]](#) (Revised June 21, 2017)
- [Intraoperative TEE Post-Procedures \[Word Version\]](#)
- [Mitral Valve \[Word Version\]](#)
- [Tricuspid and Pulmonic Valve \[Word Version\]](#)
- [Atrial Fibrillation/Maze Procedures \[Word Version\]](#)

STS CABG Surgeon Worksheet V2.9												
<input type="checkbox"/> Internal Mammary Artery: →		<input type="checkbox"/> LIMA → <input type="checkbox"/> Pedicle		<input type="checkbox"/> RIMA → <input type="checkbox"/> Pedicle		<input type="checkbox"/> Skeletonized						
Reason for No Internal Mammary Used: →		<input type="checkbox"/> Subclavian stenosis		<input type="checkbox"/> Previous mediastinal radiation		<input type="checkbox"/> No (bypassable) LAD disease						
		<input type="checkbox"/> Previous cardio or thoracic surgery		<input type="checkbox"/> Emergent or salvage procedure		<input type="checkbox"/> Other						
<input type="checkbox"/> Saphenous →		Harvest time:		Prep time:		<input type="checkbox"/> Radial →		Harvest time:		Prep time:		
<u>Use one column for each diseased vessel and distal intervention</u>			A	B	C	D	E	F	G	H	I	J
Vein Graft												
In Situ LIMA												



Additional Resources - Congenital Diagnoses and Procedure List

Congenital Diagnosis By Category		
	ASD	<input type="checkbox"/> 10=PFO <input type="checkbox"/>
		<input type="checkbox"/> 20= ASD, Secundum <input type="checkbox"/>
		<input type="checkbox"/> 30= ASD, Sinus venosus <input type="checkbox"/>
		<input type="checkbox"/> 40= ASD, Coronary sinus <input type="checkbox"/>
		<input type="checkbox"/> 50= ASD, Common atrium (single atrium) <input type="checkbox"/>
		<input type="checkbox"/> 2150= ASD, Postoperative interatrial communication NA

Congenital Procedures By Category		
	ASD	<input type="checkbox"/> 10= PFO, Primary closure
		<input type="checkbox"/> 20= ASD repair, Primary closure
		<input type="checkbox"/> 30= ASD repair, Patch
		<input type="checkbox"/> 40= ASD repair, Device
		<input type="checkbox"/> 2110= ASD repair, Patch + PAPVC repair
		<input type="checkbox"/> 50= ASD, Common atrium (single atrium), Septation
		<input type="checkbox"/> 60= ASD creation/enlargement
		<input type="checkbox"/> 70= ASD partial closure
		<input type="checkbox"/> 80= Atrial septal fenestration
<input type="checkbox"/> 85= Atrial fenestration closure		



Open Discussion

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!



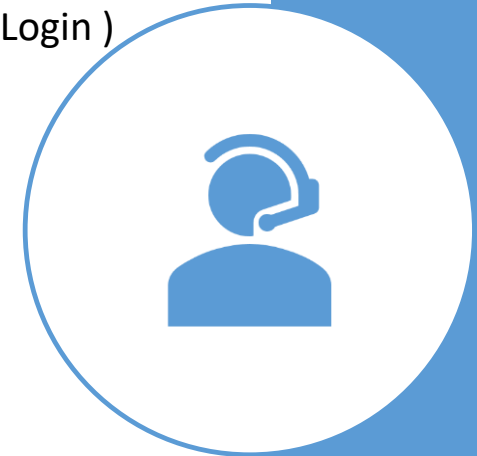
Thank You

Session II to be held June 11 @ 2pmCT



Resources

- [STS National Database Webpage](#)
- STSTechSupport@IQVIA.com (Uploader, DQR, Missing Variable, Dashboard, Password and Login)
- Phone Support: 1-833-256-7187
- [STS National Database Feedback Form](#)
- Resource Documents
 - Contact Information
 - Webinar Information
 - FAQ Document
 - Go-Live Checklist
 - Tiered-level Support Document
 - *Training Videos*
 - *Link to IQVIA*
 - ckrohn@sts.org



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