Circle

Description automatically generated with low confidence

2021

STS Adult Cardiac Surgery Database

Registry Audit

For Calendar Years 2019 - 2020

SITE NAME

**Prepared for:**

**The Society of Thoracic Surgeons**

633 N Saint Clair St, Suite 2100

Chicago, IL 60611

**Prepared by:**

**Healthcare Management Solutions LLC (HMS)**

1000 Technology Drive Suite 1310

Fairmont, WV 26554

**December 15, 2021**

Table of Contents

[1. Executive Summary 1](#_Toc90390845)

[2. Summary of Audit Results 1](#_Toc90390846)

[3. Summary of Mismatches 7](#_Toc90390847)

## Executive Summary

The 2021 Adult Cardiac Surgery Database Audit Summary Report includes observations and findings based on the result of the National Database Audit Contractor’s, (i.e. “Audit Contractor”) review of clinical documentation supporting selected data variables from the Adult Cardiac Surgery Database (ACSD) submitted by using the v2.9 data collection form. The Society of Thoracic Surgeons (STS) included surgery sites in this audit where a surgery occurred between July 1, 2019, through June 30, 2020. Healthcare Management Solutions, LLC (HMS) was awarded the contract to perform the 2021 audit.

The purpose of the 2021 Adult Cardiac Surgery Database Audit is to evaluate the overall accuracy and completeness of data within the ACSD based on supporting clinical and administrative documentation submitted by participating surgery sites. For 2021, a total of 20 cases were randomly selected for audit and selected data from your site’s Operating Room (OR) log for surgeries completed between 9/1/2020 and 11/30/2020.

IQVIA provided the lists of randomly selected audit site locations, lists of CABG-only and isolated valve cases to be validated for each audit, and the lists of all procedures in a consecutive three-month period for use in the comparison of OR log cases that were performed. Additionally, IQVIA provided the raw data files containing the original data submitted by participants to the ACSD, and the current participant contact information for the Primary Data and File Contact and the Surgeon Representative.

Please see the [STS National Database Audit Policy](https://www.sts.org/about-sts/policies/sts-national-database-audit-policy) which provides the following grading system: 98% or greater is defined as a site that exceeds expectation; 90% to 97.99% is defined as a site that meets expectation; and a site achieving less than 90% is defined as a site that does not meet expectation and will require a re-audit within two years. For data elements associated with complications or mortality measures, a site must achieve a 98% or greater agreement rate to meet expectations, 90% to 97.99% is defined as a site that does not meet expectations, and a site achieving less than 90% accuracy will require a re-audit within two years.

For the 2021 STS ACSD Registry Data audit sitename grade with a OR overall agreement rate. Additionally, sitename has a CR agreement rate for the complications section, which grade, and a MR agreement rate for the mortality section, which grade. Details of data elements that were identified as inconsistent, incomplete, or inaccurate are identified in the following sections of this report.

## Summary of Audit Results

This section summarizes the results of the review of STS ACSD Registry Data for sitename.

*Table 1: ACSD Agreement Rate by v2.9 DCF Section*

*(Excluding Complications or Mortality Sections)*

|  |  |
| --- | --- |
| Form Section | Agreement Rate |
| Demographic | «Demographics\_Agreement\_Rate» |
| Hospitalization | «Hospitalization\_Agreement\_» |
| Risk Factors | «Risk\_Factors\_Agreement\_Rate» |
| Previous Cardiac Interventions | «Previous\_Cardiac\_Interventions\_Agreement» |
| Preoperative Cardiac Status | «Preoperative\_Cardiac\_Status\_Agreement\_Ra» |
| Preoperative Medications | «Preoperative\_Medications\_Agreement\_Rate» |
| Hemodynamics/Cath/Echo | «HemodynamicsCathEcho\_Agreement\_Rate» |
| Operative | «Operative\_Agreement\_Rate» |
| Coronary Bypass | «Coronary\_Bypass\_Agreement\_Rate» |
| Valve Surgery | «Atrial\_Fribillation\_Procedures\_\_Agreemen» |
| Other Cardiac Events |  |
| Mechanical Cardiac Assist Devices | «Mechanical\_Cardiac\_Assist\_Devices\_Agreem» |
| Adult Cardiac Anesthesiology | «Adult\_Cardiac\_Anesthesiology\_Agreement\_R» |
| Overall Agreement Rate |  |
| Overall Grade |  |

*Table 2: ACSD Complications/Mortality Agreement Rates*

|  |  |
| --- | --- |
| **Form/Data Element** | **Agreement Rate** |
| Post-Operative |  |
| Postoperative Events |  |
| Readmission |  |
| **Complications Agreement Rate** |  |
| **Complications Grade** |  |
| Discharge/Mortality |  |
| **Mortality Agreement Rate** |  |
| **Mortality Grade** |  |

*Table 3. Summary of Results by Variable*

| **Form/Data Element** | **Total Variables** | **Mismatches** | **Agreement %** |
| --- | --- | --- | --- |
| **DEMOGRAPHICS** | **140** |  |  |
| 65-Date of Birth: | 20 |  |  |
| 70-Patient Age: | 20 |  |  |
| 75-Sex: | 20 |  |  |
| 160-Race - Black / African American: | 20 |  |  |
| 165-Race - Asian: | 20 |  |  |
| 180-Race - Other: | 20 |  |  |
| 185-Hispanic, Latino, or Spanish Ethnicity: | 20 |  |  |
| **HOSPITALIZATION** | **80** |  |  |
| 291-Primary Payor: | 20 |  |  |
| 293-Secondary (Supplemental) Payor: | 20 |  |  |
| 305-Admit Date: | 20 |  |  |
| 310-Date of Surgery: | 20 |  |  |
| **RISK FACTORS** | **680** |  |  |
| 330-Height (cm): | 20 |  |  |
| 335-Weight (kg): | 20 |  |  |
| 360-Diabetes: | 20 |  |  |
| 365-Diabetes Control: | 20 |  |  |
| 375-Dialysis: | 20 |  |  |
| 380-Hypertension: | 20 |  |  |
| 385-Endocarditis Type: | 20 |  |  |
| 390-Endocarditis: | 20 |  |  |
| 405-Chronic Lung Disease: | 20 |  |  |
| 450-Home Oxygen: | 20 |  |  |
| 460-Sleep Apnea: | 20 |  |  |
| 465-Pneumonia: | 20 |  |  |
| 470-Illicit Drug Use within One Year: | 20 |  |  |
| 480-Alcohol Use: | 20 |  |  |
| 485-Liver Disease: | 20 |  |  |
| 490-Immunocompromise Present: | 20 |  |  |
| 495-Mediastinal Radiation: | 20 |  |  |
| 500-Cancer Within 5 Years: | 20 |  |  |
| 505-Peripheral Arterial Disease: | 20 |  |  |
| 515-Syncope: | 20 |  |  |
| 520-Unresponsive State: | 20 |  |  |
| 525-Cerebrovascular Disease: | 20 |  |  |
| 530-Prior CVA: | 20 |  |  |
| 535-Prior CVA-When: | 20 |  |  |
| 540-CVD TIA: | 20 |  |  |
| 550-Carotid Stenosis - Right: | 20 |  |  |
| 555-Carotid Stenosis - Left: | 20 |  |  |
| 560-Prior Carotid Surgery: | 20 |  |  |
| 565-Last WBC Count: | 20 |  |  |
| 575-Last Hematocrit: | 20 |  |  |
| 580-Platelet Count: | 20 |  |  |
| 585-Last Creatinine Level: | 20 |  |  |
| 7225-Date of Positive Covid-19 Test: | 20 |  |  |
| 7230-Did the patient have a laboratory confirmed diagnosis of Covid 19: | 20 |  |  |
| **PREVIOUS CARDIAC INTERVENTIONS** | **120** |  |  |
| 670-Previous Coronary Bypass Graft: | 20 |  |  |
| 675-Previous Valve: | 20 |  |  |
| 775-Previous PCI: | 20 |  |  |
| 780-Previous PCI-When: | 20 |  |  |
| 800-Previous PCI - Interval: | 20 |  |  |
| 805-Previous Other Cardiac: | 20 |  |  |
| **PREOPERATIVE CARDIAC STATUS** | **260** |  |  |
| 885-Prior Myocardial Infarction: | 20 |  |  |
| 890-Myocardial Infarction - When: | 20 |  |  |
| 895-Primary Coronary Symptom for Surgery: | 20 |  |  |
| 911-Heart Failure: | 20 |  |  |
| 915-Classification - NYHA: | 20 |  |  |
| 930-Cardiogenic Shock: | 20 |  |  |
| 935-Resuscitation: | 20 |  |  |
| 950-Arrhythmia - VTach / Vfi: | 20 |  |  |
| 955-Arrhythmia - Sick Sinus Syndrome: | 20 |  |  |
| 960-Arrhythmia - Aflutter: | 20 |  |  |
| 961-Arrhythmia - Atrial Fibrillation: | 20 |  |  |
| 965-Arrhythmia - Second Degree Heart Block: | 20 |  |  |
| 970-Arrhythmia - Third Degree Heart Block: | 20 |  |  |
| **PREOPERATIVE MEDICATIONS** | **140** |  |  |
| 1020-ACE Inhibitors or ARB Within 48 Hours: | 20 |  |  |
| 1030-Beta Blockers Within 24 Hours: | 20 |  |  |
| 1060-ADP Inhibitors Within Five Days: | 20 |  |  |
| 1065-ADP Inhibitors Discontinuation: | 20 |  |  |
| 1073-Glycoprotein IIb/IIIa Inhibitor Within 24 Hours: | 20 |  |  |
| 1130-Inotropes Within 48 Hours: | 20 |  |  |
| 1143-Steroids Within 24 Hours: | 20 |  |  |
| **HEMODYNAMICS/CATH/ECHO** | **220** |  |  |
| 1170-Number of Diseased Vessels: | 20 |  |  |
| 1195-Percent Stenosis - Left Main: | 20 |  |  |
| 1545-Hemo Data - EF: | 20 |  |  |
| 1595-Aortic Valve Disease: | 20 |  |  |
| 1600-Aortic Stenosis: | 20 |  |  |
| 1615-Aortic Gradient - Mean: | 20 |  |  |
| 1685-Mitral Valve Disease: | 20 |  |  |
| 1690-Valve Disease Stenosis - Mitral: | 20 |  |  |
| 1731-Mitral Valve Disease Primary Etiology: | 20 |  |  |
| 1780-Tricuspid Valve Disease: | 20 |  |  |
| 1785-Tricuspid Valve Stenosis: | 20 |  |  |
| **OPERATIVE** | **60** |  |  |
| 1966-STS Risk Calculator Score Discussed: | 20 |  |  |
| 1975-Status: | 20 |  |  |
| 2290-Appropriate Antibiotic Discontinuation: | 20 |  |  |
| **CORONARY BYPASS** | **40** |  |  |
| 2626-Internal Mammary Artery Used: | 20 |  |  |
| 2627-Reason for No IMA: | 20 |  |  |
| **VALVE SURGERY** | **180** |  |  |
| 3395-Aortic Valve Procedure: | 20 |  |  |
| 3408-Aortic Surgical Valve Replacement Device Type: | 20 |  |  |
| 3460-Aortic Proc-Aortic Annular Enlargement: | 20 |  |  |
| 3500-Mitral Valve Procedure: | 20 |  |  |
| 3505-Mitral Valve Repair – Annuloplasty: | 20 |  |  |
| 3515-Mitral Leaflet Resection Type: | 20 |  |  |
| 3539-Mitral Valve Repair – Posterior Neochords: | 20 |  |  |
| 3566-Mitral Valve Repair – Folding Plasty: | 20 |  |  |
| 3620-Mitral Implant – Type: | 20 |  |  |
| **MECHANICAL CARDIAC ASSIST DEVICES** | **20** |  |  |
| 3730-IABP - When Inserted: | 20 |  |  |
| **OTHER CARDIAC EVENTS** | **20** |  |  |
| 4250-AFib Lesion Location - Bilateral Pulmonary Vein Iso: | 20 |  |  |
| **POST-OPERATIVE** | **80** |  |  |
| 6555-Peak Postop Creatinine Level Prior To Discharge: | 20 |  |  |
| 6591-Postop Intubation/Reintubation During Hospital Stay: | 20 |  |  |
| 6595-Additional Hours Ventilated: | 20 |  |  |
| 6615-Readmission to ICU: | 20 |  |  |
| **POSTOPERATIVE EVENTS** | **260** |  |  |
| 6690-Post-Op-Surgical Site Infection: | 20 |  |  |
| 6700-Post-Op-Deep Sternal: | 20 |  |  |
| 6750-In Hospital Post-Op Events: | 20 |  |  |
| 6755-Post-Op-ReOp Bleeding/Tamponade: | 20 |  |  |
| 6765-Post-Op-ReOp for Valvular Dysfunction: | 20 |  |  |
| 6771-Post-Op-Reintervention-Myocardial Ischemia: | 20 |  |  |
| 6774-Post-Op-Aortic Re-intervention: | 20 |  |  |
| 6778-Post-Op-ReOp Other Cardiac Reasons: | 20 |  |  |
| 6780-Post-Op-Return To OR For Other Non-cardiac Reason: | 20 |  |  |
| 6810-Post-Op-Neuro-Stroke Perm: | 20 |  |  |
| 6835-Post-Op-Pulm-Vent Prolonged: | 20 |  |  |
| 6870-Post-Op-Renal-Renal Failure: | 20 |  |  |
| 6930-Post-Op-Other-A Fib: | 20 |  |  |
| **DISCHARGE/MORTALITY** | **180** |  |  |
| 7001-Mort-Status at 30 Days After Surgery: | 20 |  |  |
| 7005-Discharge Mortality Status: | 20 |  |  |
| 7008-Hospital Discharge Date: | 20 |  |  |
| 7060-Aspirin - Discharge: | 20 |  |  |
| 7070-ADP Inhibitors - Discharge: | 20 |  |  |
| 7105-Beta Blockers - Discharge: | 20 |  |  |
| 7115-Lipid Lowering Statin - Discharge: | 20 |  |  |
| 7121-Mortality-Date: | 20 |  |  |
| 7124-Operative Mortality: | 20 |  |  |
| **READMISSION** | **60** |  |  |
| 7140-Readmission: | 20 |  |  |
| 7145-Date of Readmission: | 20 |  |  |
| 7160-Readmit Reason: | 20 |  |  |
| **ADULT CARDIAC ANESTHESIOLOGY** | **60** |  |  |
| 7500-Regurgitation - Mitral: | 20 |  |  |
| 7510-Aortic Valve Regurgitation Degree: | 20 |  |  |
| 7530-Tricuspid Regurgitation: | 20 |  |  |
| **OVERALL AGREEMENT RATE** | 2,600 |  |  |

***Table 4. OR log Comparison Results***

|  |  |  |
| --- | --- | --- |
| **# Cases in STS ACSD** | **# Verified OR Log Cases** | **Agreement %** |
|  |  |  |

Note: In some sites, lack of proper identifiers in the data led to poor to no matches

HMS compared your site’s submitted OR log to procedures identified in the STS Adult Cardiac Surgery Database for procedures that occurred between 9/1/2019 and 11/30/2019 using the STS Record ID, Gender, Age, Surgery Date, Hospital Admission/Discharge dates, and Procedure Description. The purpose of the quantitative and qualitative comparison was to determine the likelihood that procedures at your site are not being entered into the ACSD registry. Where the OR Log contained either the same number or few procedures than the STS ACSD, HMS calculated an agreement rate based on the identified data elements. An agreement rate below 90% suggests there may be concerns with identifying procedures for entry into ACSD. Likewise, an OR Log that contains more procedures than identified in the ACSD registry suggests there may be procedures performed at your site that may not be included in the ACSD Registry.

## Summary of Mismatches

*Table 5. Mismatches by Data Element*

|  |  |  |
| --- | --- | --- |
| **Record ID** | **Data Element** | **Sequence No** |
|  |  |  |