

# Cardiovascular Update

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A newsletter from the BayCare Cardiovascular Service Line



## Society of Thoracic Surgeons (STS) National Database: Setting the Standard

By David K. Evans, MD, and John C. Ofenloch, MD, FACS

### BayCare Participation

BayCare cardiovascular surgery programs at Winter Haven Hospital, Morton Plant Hospital and St. Joseph's Hospital submit data to the Society of Thoracic Surgeon's national database with the goal of improving patient outcomes and improving patient safety. These open-heart surgery programs have also elected to share their results publicly since that reporting structure became available in 2010. BayCare programs have achieved the highest rating (three stars) from the STS, ranking us in the top 10 percent of all cardiac surgery programs nationwide.

With the collective experience of over 1,000 open-heart surgeries each year and the cohesive interaction of sharing best practices between cardiovascular surgeons across the BayCare network, we've been able to provide a world-class experience with superior outcomes for our patients and their families. This claim is based on and substantiated by the STS national database.

### History of the Formation of the Society of Thoracic Surgeons National Database

In 1986, then Health Care Financing Administration (HCFA) began publicly reporting hospital mortality data using minimally adjusted non-clinical data. Because of the lack of adequate risk adjustment and questions regarding the accuracy of diagnoses and procedures, cardiothoracic surgeons wanted to ensure that the data released would not mislead the public.

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## Upcoming Conference

**Saturday, October 21 | 8am-3pm**

Cardiovascular Continuing  
Medical Education Conference

Renaissance Tampa International  
Plaza Hotel | Tampa

**To register:**

**[BayCareCardioConference.org](http://BayCareCardioConference.org)**

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[BayCare.org](http://BayCare.org)

The STS Standards and Ethics Committee appointed an ad hoc committee to develop a model to determine risk factors for coronary artery bypass grafting (CABG) surgery that would identify comorbidities, and perioperative and procedure-specific characteristics that were likely to impact the risk of a given procedure. In 1989, the STS national database was established, focusing on three categories of cardiothoracic surgery: Adult cardiac surgery, congenital heart surgery and general thoracic surgery.

## STS National Database Is the Gold Standard for Process and Outcomes

Since the STS national database began, it's grown in both participation and stature, becoming the gold standard for clinical registries. Currently, the database contains data of more than six million cardiac surgery procedures. There are many unique features of the STS database that set it apart from other databases, including:

- The STS national database is the largest clinical cardiac database in the world, representing more than 90 percent of all adult cardiac surgery centers across the United States, making it well representative of the quality of care that patients will receive in the hospitals they choose.
- STS data elements have been vetted, reviewed, approved and endorsed by the National Quality Forum (NQF), which employs the most rigorous quality measures to ensure the highest standards.
- The STS randomly audits 10 percent of programs annually to guarantee the data submitted is accurate and complete – their findings are excellent at greater than 98 percent accuracy.
- The STS uses the most sophisticated clinical risk adjustment models so that outcomes can be appropriately adjusted for the various case mixes between hospitals.
- The STS provides a platform for quality improvement and research.
- The STS publishes its data to the public creating transparency in a consumer-friendly format.

The STS database provides reports twice each year and benchmarks members to the regional and national cohorts allowing comparison of many data elements.

## Implementation of STS Data Within BayCare

Once the data is collected, verified, submitted and benchmarked by STS, the real work begins. Analysis of the report identifies where we need to improve care, as well as areas where we're practicing above benchmark levels. The STS provides national and regional comparisons, which may highlight practice patterns reflective of different patient populations, such as an abundance of retirees in Florida. A multidisciplinary team composed of physicians, advanced care practitioners, nurses, anesthesia personnel, unit managers and perfusionists develop a plan to improve quality through process improvement and can quickly adjust clinical practice.

### How does this work?

For example, at Morton Plant Hospital, the rate of atrial fibrillation (AF) after isolated coronary artery bypass grafting surgery was found to be higher than the national average. This led to longer length of stay and readmissions for this group of patients. The literature was reviewed to find what other heart surgery centers were doing to prevent AF. Over the course of time, different treatment modalities were used – some prior to surgery, some during surgery and others postoperatively. These included vitamin C tablets, colchicine and amiodarone administered perioperatively, in addition to standard aggressive use of beta blockers. Each of these was studied individually for a six-month trial. We measured the rate of AF prior to beginning these therapies and during the trial period. After years of trying different methods, the combination of using amiodarone and maximizing beta blocker therapy led to a significant drop in the postoperative atrial fibrillation rate.

Thus, this one example demonstrates that the detailed STS report, when dissected, is able to help us find the areas where we can improve the quality of our outcomes.

### Summary

The Society of Thoracic Surgeons encourages all cardiac surgical programs to participate with the goal of improving patient outcomes and documentation of quality of care. The STS database provides a standardized format for data collection and allows comparison of outcomes and elective public reporting for participating heart surgery programs who are willing to share their results with consumers.

The Society of Thoracic Surgeons continues to enhance the completeness of the adult cardiac surgery database by linking its database with others. Combining these data sets will enhance information regarding long-term mortality, re-hospitalization rates, clinical benefits of procedures and the financial impact of treatment as a means to improve the quality and safety of care for cardiovascular surgical patients.

