CASE STUDY

SVS VQI Strengthens Device Data Integrity for Vascular Surgery Reporting

A unique partnership gives SVS VQI access to machine learning, natural language processing, and optical character recognition capabilities to ensure data is available in real time.

Summary

More than 1,000 medical centers and hospitals collect and exchange vascular surgery data through the Society for Vascular Surgery® Vascular Quality Initiative® (SVS VQI) clinical registry. It's a critical tool that provides invaluable insight to healthcare providers and vascular device manufacturers on the quality and effectiveness of vascular care, with data from over 1 million procedures contained within its 14 registries.

Each month, data for more than 10,000 clinical procedures are added to the registry, which is powered by the Fivos PATHWAYS® platform, a secure, cloud-based solution for data collection and analysis. The introduction of new devices and frequent mergers between medical device manufacturers, as well as issues such as missing unique device identifiers (UDIs) or multiple UDIs for the same product, make it difficult to accurately capture device information at the point of care. This presents challenges in assessing performance.

In July 2022, SVS VQI launched a partnership with Symmetric Health Solutions–a medical device software company that works with more than 750 US and OUS hospitals, with over 15 million devices/products, and over 400 attributes–to more accurately identify healthcare supply chain and medical device data. Ultimately, this partnership would afford SVS VQI access to reliable, accurate UDI-based device information when it is needed most for patient safety and clinical care.

The Challenge

Hospitals and medical centers that participate in the SVS VQI depend on the Unique Device Identifier (UDI), mandated by the Food and Drug Administration to appear on the label of most devices, to clearly and unambiguously identify the devices they use in patient care, similar to how the National Drug Code (NDC) is used to identify medications. However, the UDI contains more information than the NDC, including the UDI-DI (device identifier of the UDI) assigned to the model/version of the device and the UDI-PI (production identifier of the UDI) that specifies information like the lot, serial number, and expiration date. Per regulation, FDA has also established a publicly available database–Access Global Unique Device Identification Database (AccessGUDID)–populated by manufacturers at the UDI-DI level. The combination of the UDI on the label and UDI-DI records in AccessGUDID supports VQI participants to make real-time decisions about vascular medical procedures, including complex surgeries.

The data available through the SVS VQI is essential to providers in determining the quality of a particular medical device and its efficacy for various types of cases. Device data is often captured in the text fields of surgical notes in hospital IT systems. By inputting a standard identifier for each device used during a procedure, clinicians help capture essential information related to the device manufacturer, brand, device type, and size of the device. Each of these variables—contained within a single source: AccessGUDID—helps tell the story of the device as it relates to its ability to support high-quality care.

Prior to 2022, SVS VQI encountered numerous challenges relying solely on AccessGUDID to obtain data related to vascular medical devices at the point of care.

For instance, some devices did not have a unique device identifier (UDI) on the device label. At times, multiple UDI-DIs existed for the same device. This

made it difficult to match a UDI captured on a device with the appropriate UDI-DI record in AccessGUDID. Often, there were issues with device manufacturer names resulting from increased mergers and acquisitions across the industry. And there were variances in AccessGUDID data, such as information around device sizes. When SVS VQI reached out to device manufacturers with questions, often, there were delays in updates to AccessGUDID.

These issues with data quality required resolution before use of the AccessGUDID could be expanded to other VQI clinical registries.

> **"Our partnership with Symmetric Health Solutions and Fivos eliminates problems with missing data, such as device diameters and length, and better positions SVS VQI to show improvements in clinical quality related to vascular devices. We're grateful for the advancements in vascular care, workflows, and patient safety that have resulted from this joint venture."**
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> Jens Eldrup-Jorgensen, MD
> Medical director, SVS Patient Safety Organization

The Solution

Together, the SVS Patient Safety Organization (SVS PSO), the governing body for the SVS VQI, and Fivos, the technology powering SVS VQI registries, became determined to help vascular providers refine and accurately capture device data. Soon, they joined forces with Symmetric Health Solutions, who supported the continued use of AccessGUDID data while also enhancing the tool to address known challenges and allow for actionable, data-driven decisions at the point of care.

Symmetric offers a data platform to improve the completeness and accuracy of existing AccessGUDID data and offers data on products that are not currently available in AccessGUDID. Symmetric leverages machine learning, natural language processing, and optical character recognition technology to create a single source of truth for medical device data, including vascular devices.

Consider that 10,000 clinical procedures are added to the SVS VQI registries each month, while new devices are brought to market each day. This increases challenges in capturing and maintaining accurate device data in registries. It also raises the risk that the right device data will not be available at the right time, leading to inaccurate or incomplete device detail.

Symmetric refreshes data from more than 100 data sources representing over 15 million items each night. Over 400 device item attributes, including UDI-DIs are updated regularly. With a match rate of over 90%, clinical registry users can be sure of the integrity of the device data. Meanwhile, Fivos redesigned its PATHWAYS platform to use the Symmetric APIs, providing users with access to near real-time device data and increasing the accuracy of the details captured in the registry.

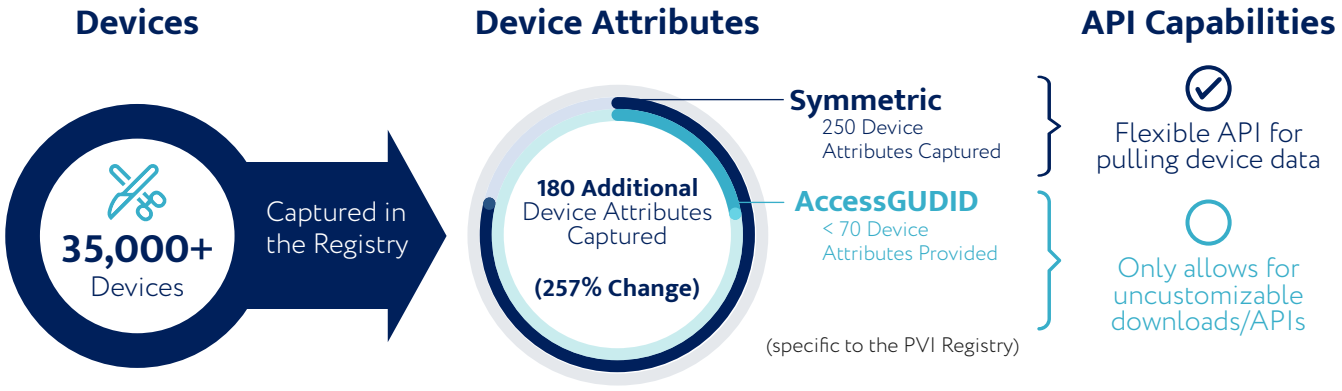
"The accuracy of device data for patient safety, clinical decision making, and research is critical for registries. We strongly believe that our partnership with SVS VQI fills a gap that will transform the usability of device data in clinical and regulatory decision making."

Carrie Bosela
Director of business development, Symmetric Health Solutions

The Results

The partnership with Symmetric eliminates manual maintenance by SVS VQI and registry providers to add new devices to the clinical registry and maintain and update existing records. It also increases the number of device attributes that can be captured, enhancing patient safety and expanding opportunities for research.

Early results show the impact the partnership has made for the Peripheral Vascular Intervention (PVI) registry, the first of 14 SVS VQI registries to integrate with Symmetric:



About Symmetric Health Solutions
Symmetric Health Solutions provides hospitals and healthcare organizations with data and analytics to solve their toughest supply chain challenges. Hundreds of acute care hospitals rely on our software to automate processes, improve their bottom line, and keep patients safe. Our software is powered by the latest innovations in ML, NLP and OCR, enabling our customers to overcome long-standing challenges in medical device identification. Symmetric believes in a transparent global healthcare system, where accurate, complete information is readily available to whomever needs it. Learn more at www.SymmetricHealthSolutions.com.

About SVS VQI
The Society for Vascular Surgery® Vascular Quality Initiative® (SVS VQI) is governed by the SVS Patient Safety Organization (SVS PSO), a wholly owned subsidiary of the Society for Vascular Surgery, which provides oversight of data sharing arrangements, key outcome and quality measure analyses, and dissemination of information to participating providers. SVS VQI comprises vascular surgeons, cardiac surgeons, general surgeons, cardiologists, radiologists and other specialists who perform vascular procedures collected in the VQI Registries, as well as Quality Improvement professionals, data managers and others dedicated to improving patient outcomes.

To learn more, visit www.vqi.org.