SVS | VQI
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WVUMedicine

CASE STUDY

IMPROVING IVC PLACEMENT AND RETRIEVAL WITH A CLOUD-BASED TRACKING PLATFORM

EXECUTIVE SUMMARY

Just six years ago, West Virginia University Medicine in Morgantown, W. Va., had no formal collaborative process to track placement or removal of inferior vena cava (IVC) filters. This not only impacted the institution's ability to provide vascular patients with quality care, but also left patients at risk for complications.

However, by relying on a cloud-based registry solution for tracking IVC placement and retrieval, as well as implementing a patient education program, WVU has nearly tripled its IVC retrieval rates and dramatically improved the care of these patients.

THE CHALLENGE

Inferior vena cava (IVC) filters are used to prevent pulmonary embolism in patients with venous thromboembolism (VTE), contraindications to anticoagulants, progression of deep vein thrombosis (DVT), and other related conditions. They are also used to prevent VTEs in patients with long-term immobilization and certain other conditions, such as cancer, that can induce a hypercoagulable state.

Guidelines recommend IVC filter removal within 29 to 54 days of insertion for most patients. The longer a filter remains in place, the greater the risk of complications during retrieval—and the more susceptible patients become to developing recurrent DVT and IVC thrombosis. For healthcare institutions, lack of protocols for IVC filter monitoring and retrieval, combined with poor patient education, can potentially impact quality-of-care measures.

Nevertheless, IVC filter retrieval rates remain low among many institutions. Indeed, of 91 filters placed as of 2016, WVU's filter removal rate was less than 20% in one year. Some patients were not scheduled for follow-up appointments to evaluate filter removal; others did not show up for their appointments. Furthermore, only 12 IVC filter patients received documented education on the importance of having their filters removed.
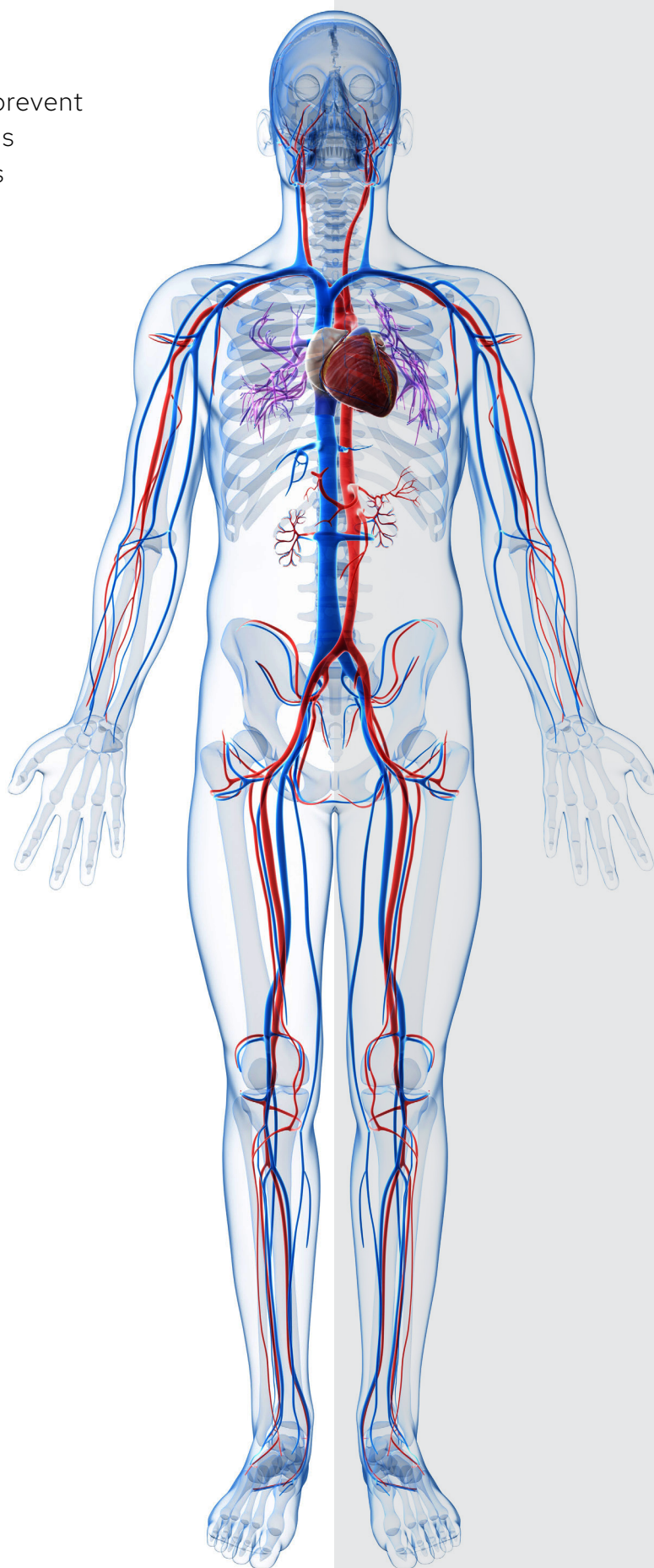
THE SOLUTION

Recognizing the effects on patients and their organization, WVU Medicine leaders set out to achieve a two-fold objective: create a plan for more consistent IVC filter monitoring and retrieval, and standardize patient education about the need for IVCs and the importance of their removal.

Their first step was to convene an interdisciplinary team consisting of two data managers, a vascular surgeon, an interventional radiology physician assistant, and an interventional radiology nurse. The team's goal: Develop IVC retrieval and patient education protocols. But achieving this goal proved challenging.

The hospital began by tapping further into an existing tool to which they had access: the Society for Vascular Surgery's Vascular Quality Initiative (VQI). VQI is a network of regional groups that use a patient safety organization and a cloud-based system to collect and analyze data to improve the quality of vascular healthcare. Being a part of the organization provided a unique opportunity for the hospital to establish best practices through data insight and collaboration with other quality-committed centers.

As a subscriber of SVS VQI's IVC Filter Registry, WVU began leveraging its Filter Retrieval Report—a critical feature that delivers periodic email notifications to physicians and staff regarding filter procedures current or overdue for retrieval. Utilizing this and other registry tools, WVU could better and more easily track procedures requiring filter removal, in addition to analyzing management and follow-up data, and measuring medical treatment and outcomes against regional and national benchmarks.

> "Once we committed to fully utilizing our VQI resources, our quality improvement initiatives really took off," states Stacy Giardina, HVI Clinical Program Manager at WVU Medicine. "The IVC Filter Registry was a game changer, allowing us to establish best practices for IVC filter removal and optimize patient care."

The registry and its retrieval report capability are driven by the Fivos PATHWAYS® platform, a cloud-based, customizable solution for real-time data collection, analysis, and long-term outcomes assessment.

In addition to increased registry reliance, WVU's multidisciplinary team created a patient education sheet that could be used by both the Vascular and IR teams to reinforce the need for IVC follow-up and removal to patients. This education piece was then added to the hospital's EMR system for easy access by staff.

IMPACT

The benefits of more consistent IVC filter monitoring and retrieval, combined with robust patient education, quickly became apparent. WVU's rate of filter retrieval or attempt at retrieval rose to 52% as of 2019. By enabling more efficient, data-driven communication among clinicians via phone and/or email, the platform reduced the need for in-person discussions of cases.

A complete working list of every patient who has received an IVC filter since 2017, as well as a standardized patient education plan, lives on the medical center's EHR. Today, VQI data managers use the IVC filter report and the follow-up report to identify patients who have not received the appropriate follow-up care. They then communicate this information to clinic staff for intervention.

Tracking placement and retrieval of IVC filters doesn't have to be difficult. As WVU's experience shows, leveraging a vascular registry can help providers eliminate inefficiencies, hone best practices, and achieve more effective treatment for better outcomes in vascular care.

TO LEARN MORE, PLEASE VISIT
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