

CASE STUDY

# LEVERAGING VQI BENCHMARKING CAPABILITIES TO DECREASE LENGTH OF STAY FOR VASCULAR PATIENTS

## EXECUTIVE SUMMARY

As quality care becomes increasingly important within the vascular care community, so too does the ability to benchmark performance. Benchmarking is critical to achieving better patient outcomes, allowing providers to measure themselves against internal and external standards and pinpoint opportunities for improvement within their organization.

For two health systems, use of a vascular clinical registry provided the data volume, statistical power, and reporting functionality necessary to identify prolonged length of stay (LOS) as a problem area, propelling them to launch initiatives to minimize the metric and its impact on the well-being of patients and their bottom line.

## THE CHALLENGE

Length of stay (LOS) is a metric closely monitored by hospital and health system leaders—and for good reason. LOS can be a primary indicator of the well-being of a center and its patients. A prolonged length of stay disrupts patient flow, increases the risk of inpatient complications, and hinders access to care due to bed shortages. Not to mention, it increases costs for the provider by tying up valuable resources. And **studies show** LOS is also linked to patient outcomes, with higher outcomes reported by patients who experience a shorter LOS.

Though aware of its importance, many hospitals still struggle to minimize LOS. Lack of standardized procedures, poor case management, and inadequate patient education each inhibit a hospital's ability to decrease the metric. One key to improving this figure is to leverage data to gain an understanding of processes that directly affect a patient's LOS and then enact measures to refine and revamp them.

## THE SOLUTION

Two major health systems used the Society for Vascular Surgery's Vascular Quality Initiative (SVS VQI) to determine that their LOS was higher than regional and national averages. The organizations' subscriptions to the Initiative—a network of regional groups that rely on a patient safety organization and cloud-based system to collect and analyze vascular data—not only enabled them to identify LOS as a trouble spot but also to create strategic solutions to alter processes impacting LOS and elevate patient care as a result. The registry and its reporting capabilities are driven by the Fivos PATHWAYS® platform, a customizable solution for real-time data collection, analysis, and long-term outcomes assessment.

## HOW THEY DID IT

### Nebraska Medicine

Through the use of SVS VQI reports and regional benchmarking, Nebraska Medicine determined that their average length-of-stay for a lower extremity bypass for the calendar year 2016-2017 was 7.7 days—two days longer than the regional post-op average and day and a half above the national mean. [According to the Kaiser Family Foundation](#), an inpatient stay can cost a hospital \$2,873 a day. The discovery that the organization was falling short of regional and national benchmarks was significant—especially from a cost perspective—and they knew they needed to make changes to address it.

To begin, Nebraska Medicine standardized care for all elective and non-elective lower extremity bypass patients. Many of the strategies they enacted—implementation of a clinical pathway, defined discharge criteria, improved patient and staff education, pre and post-operative systemic pain control and nutritional care, and early mobility—overlapped with an existing pilot, Nebraska Medicine Enhanced Recovery After Surgery (NERAS), making it easier to ensure they were carried out in a consistent manner.

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### The Medical University of South Carolina (MUSC)

When measuring themselves against other SVS VQI participants, both at the national and regional levels, it became evident to The Medical University of South Carolina that their organization was falling short of optimal LOS averages. For a one-year period from June 2017 through May 2018, 28% of MUSC patients had a postoperative LOS greater than two days following endovascular aneurysm repair (EVAR). At this average, MUSC significantly exceeded SVS VQI's national mean of 14%, along with that of its Carolinas Vascular Quality Group (CVQG), which was nearly identical (13%). After discovering their standing among peers across the nation, MUSC set out to make significant improvements and establish themselves as a facility leading the way with low LOS averages. Their goal was aggressive—yet attainable: to reduce the proportion of EVAR patients with postoperative LOS greater than two days to less than 10%.

MUSC implemented a strategic, multi-step initiative to lower their LOS and enhance patient care at their facility. After reviewing all patient records for the factors contributing to a prolonged length of stay over the previous year, they enacted a series of measures, both procedural and educational, to reverse their LOS trend. Their strategy included: avoiding peri-procedure over- or under-hydration, minimizing the use of intravenous contrast during the procedure, holding Metformin two days, and ACE-I one day, prior to procedure, holding preoperative patient discussions about shortened LOS plans, and minimizing intraoperative use of Foley catheter.

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## IMPACT

### Nebraska Medicine

COVID-19 presented indirect challenges for Nebraska Medicine to achieve its LOS objectives, given the restrictions in elective procedures and decline in patient volumes as a result. During the height of the pandemic, patient communication and education suffered; shuffling of patients between units and staff made it difficult to instruct and maintain consistency while a “no visitors” policy prevented the hospital from fostering family engagement and support. Nevertheless, Nebraska Medicine was able to see the fruits of their labor: their vascular team became more engaged, staff communication improved with more well-defined orders, and, ultimately, post-op length of stay decreased.



## MUSC

With focused effort, MUSC was able to turn things around quickly, greatly reducing their average LOS and their standing among other SVS VQI centers. From June 2018 through May 2019 the proportion of patients at the hospital with a postoperative LOS greater than two days post-EVAR dropped to an impressive 3%, falling well below the 12% SVS VQI-wide and 10% CVQG regional means.

MUSC's LOS initiative impacted patient care but also served as a learning experience for the facility. With time, they realized many of their strategic efforts were dependent upon the recruitment and involvement of staff at various levels, both to maintaining protocol as well as managing patient expectations and ensuring compliance. The project also underscored the importance of utilizing the tools available to their organization, especially the SVS VQI.

“One key takeaway is that strong provider and institutional support for and belief in the SVS-VQI quality improve process facilitates success in attaining goals in improving vascular surgical patient care.”

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