

High volume enterprise provider of cardiovascular services implements innovative technology to improve procedural coding.

Biome helps renowned interventional cardiology department significantly improve its procedural documentation resulting in measurable and sustainable financial gains for the CVSL.

Healthcare data is complex, layered, and often varies from provider to provider. This creates obstacles to critical processes, like risk adjusted comparison, and appropriate billing. The opportunity to improve longitudinal documentation can impact the enterprise health system in very real and measurable ways.

When history and physical data is highly variable across providers, or missing key values, the impacts can be severe. National benchmarks can also be adversely effected as the site and provider are not credited for the true acuity of their patients; the difference between a patient with and without major comorbidities can result in a loss of millions of dollars to a serviceline.

In each case, the key determinants are quality and consistency of the documentation.

Opportunities uncovered

While assessing a current clients structural heart program, Biome used its cardiovascular-specific bench-

mark and risk audit technology to surface potential gaps in procedural documentation. This audit presented an opportunity to leverage Biome's performance improvement platform to help develop and manage a coding improvement initiative for the heart team and the service line.

Deep dive into structural heart program

By deploying the Biome Opportunity Engine™ — a cardiovascular performance application with proprietary machine learning algorithms- Biome analyzed a large volume of enterprise system data to automatically identify for the CVSL what their case mix looked like, specific to their coding, in relation to national benchmarks found in the Biome Knowledge Network™.

The Biome Opportunity Engine generates several key outputs that provide the cardiovascular serviceline leader with the data required to drive change. These include, comparative data across the Biome network that identifies gaps in performance com-

> CHALLENGE

Accurately capture and document patient risks and acuity associated with a cardiovascular procedure and translate this to the procedure documentation and correct coding for the cardiovascular procedures.

- TAVR DRG 266
- TAVR DRG 267

> SOLUTION

- Biome Opportunity Engine™
- Biome Knowledge Network™
- Biome Analytic Engine™
- Biome Performance Manager™

> RESULTS

- 200% increase in accurate DRG coding for Transcatheter Aortic Valve Replacement procedures
- Measurable results experienced within first two quarters of performance improvement initiative start
- Gains sustained over following four quarters.

"The Biome Opportunity Engine allowed us to view the variation in our TAVR case mix as compared to Biome's national bench marks with ease and precision," said the Vice President of the Heart and Vascular Center. "We then validated the opportunity to improve our documentation using Biome's risk audit technology. What previously took us weeks and months to analyze now takes us minutes using the Biome platform."

pared to peer institutions, proprietary algorithms to identify patient visits to audit, and impact analysis, showing the outcome and financial impacts of driving change.

This analysis showed a high degree of variation with the coding and documentation for transcatheter aortic valve replacement procedures (TAVR) that was worth investigating.

Biome and the client then leveraged the Biome Analytic Engine™ to identify the cohort of patients for their TAVR procedures- and further analyzed them in relation to their pre-procedural condition. Using proprietary technology and algorithms, Biome identified the patient acuity, pre-procedurally, and retrospectively cross-referenced the data against procedures the client had previously coded and billed.

The result was a sober acknowledgment of consistent gaps in documentation leading to coding errors and revenue loss.

Positive next steps

With support from Biome, the client performed a thorough audit of the billing of previous patients to better understand patient acuity pre-procedure. During the audit process, additional gaps in coding and physician documentation were identified.

As a result, the client developed a structural heart coding initiative which included adoption of physician documentation improvements, registry abstractor training, and additional billing training. The initiative was then programmed into the Biome Performance Manager™ for ongoing tracking and to streamline communication with registry and care teams.

Improvements in efficiency and revenue were realized within the first two quarters.

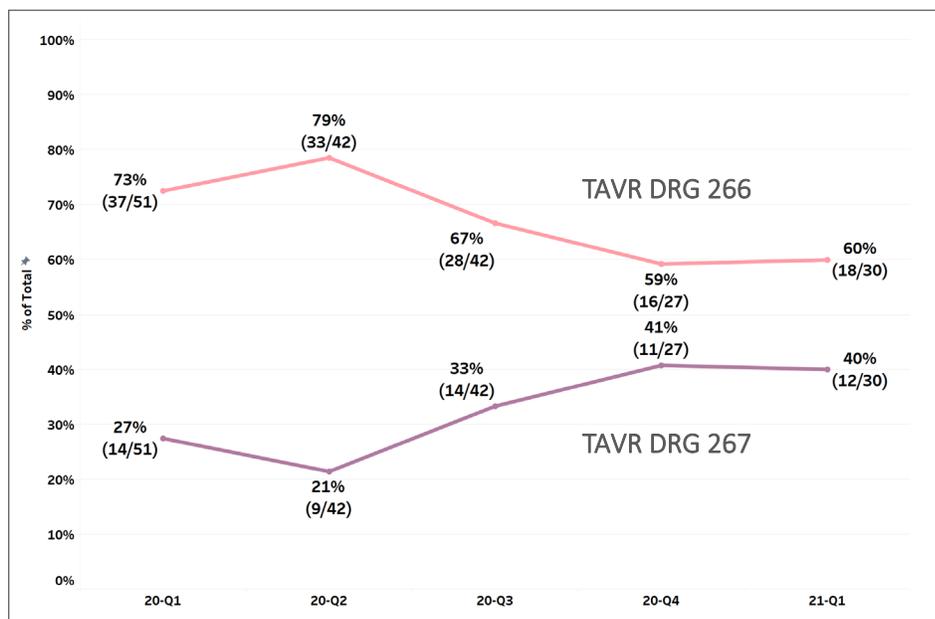


Figure 1.

“The Biome Performance Manager provided the ability to package our coding improvement initiative in a digital environment to improve communication for the care teams. It allows us to set goals and actively monitor the progress we’re making with our initiatives, and at the same time quantify the impact the improvement initiative is making for the service line. The care teams really take ownership of the initiative when they can see how their performance translates to measurable results.”

Great results

Starting in Q2 2020, the client flagged the TAVR DRG 266 and TAVR DRG 267 coding metric as an outlier when compared against other similar heart programs.

After establishing new methodologies for correctly documenting pre-procedure patient acuity and automating the monitoring of coding submissions, the client was able to ensure greater accuracy and consistency.

In the first two quarters, the CVSL improved the accuracy of the TAVR DRG coding by 200%. The improvement in coding accuracy also led to measurable improvements in revenue capture for the cardiovascular service line and for the enterprise health system. (Figure 1.)

About Biome

Biome is the leading cardiovascular performance company dedicated to helping doctors and health systems deliver the best care, to the most patients, at the lowest cost. Biome partners with ambitious enterprise heart centers and cardiovascular teams looking to achieve superior clinical and financial performance.

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