

World Class cardiovascular provider optimizes structural heart care pathway resulting in clinical and financial benefits for patients and the health system.

Biome Analytics identifies opportunities to optimize and standardize transcatheter aortic valve replacement (TAVR) care pathway, safely lowering length of stay for patients while saving ICU bed days for the provider health system.

Since the passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act, cardiovascular analytics have advanced from simple dashboards to dedicated, complex, powerful data mining and interpretation software.

“Technology has really changed how we look at data.”

Nowhere is this advancement more evident than at a leading heart center, where the Director of Clinical Analytics is leveraging proprietary data-driven solutions to improve healthcare while optimizing clinical and financial performance.

Challenge

The heart system is passionate about improving value at a population level, that’s why in 2018 it partnered with Biome Analytics, a leading provider of performance solutions for enterprise heart centers and cardiovascular teams, to surface meaningful clinical and financial opportunities and to drive achievable improvement by aligning the cardiovascular care teams around measurable performance goals.

Identifying opportunities

Biome’s first task was to dive deep into several years of clinical and financial data to surface meaningful opportunities for improvement. Leveraging the Biome Opportunity Engine™ — cardiovascular perfor-

> CHALLENGE

- Surface meaningful clinical and financial opportunities to drive achievable improvement

> SOLUTION

- Biome Opportunity Engine™
- Biome Knowledge Network™

> RESULTS

- LOS improved 106%, from 3.5 to 1.7 days
- 1,245 ICU bed days saved
- Improved results were achieved in the safety end points

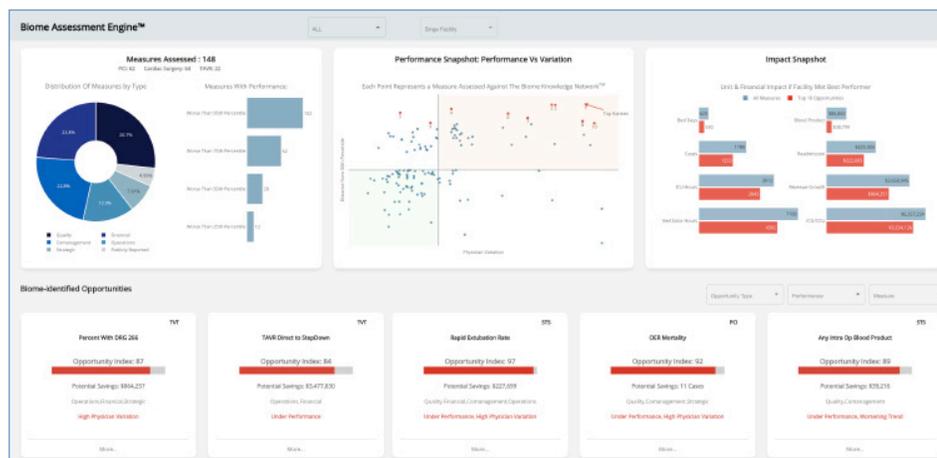


Figure 1: The Biome Opportunity Engine: benchmark measures for all Biome clients (demonstration data)

mance applications and proprietary machine learning algorithms — the team was quickly able to create a precise plan-of-action, including recommendations, insights and proven best practices to help the Director of Clinical Analytics focus on activities with the greatest impact on success.

“It’s important that you find the right partner. Biome has helped us really derive benefit from our cardiovascular data; without them, I don’t think I could do the work that I do day-in and day-out.”

As a result of comparing CVSL performance to that of the Biome Knowledge Network™ — a library that connects tens of thousands of clinical and financial measures, metadata, benchmarks, transform rules, decision trees and predictive algorithms into a proprietary ontology — Biome was able to forecast a significant clinical and financial benefits by shifting TAVR patients from the ICU directly to a Step Down Unit (SDU). Compared against proven best practices, and using the Biome Analytic Engine™ to develop relevant TAVR patient cohorts, Biome predicted that over 60% of TAVR patients could safely qualify for a

direct admission to SDU, resulting in several benefits for the patients receiving care, which included a significant reduction in length of stay. In addition, the health system would benefit directly from a measurable increase in ICU capacity.

“Technology has really changed how we look at data,” said the Director of Clinical Analytics. “With Biome’s help, we’re able to access and combine huge amounts of data and utilize it in wayw that are most beneficial to patients, the CV team and the hospital.”

TAVR direct to SDU: 0 to 80 in no time flat

Within 60 days, the enterprise care delivery team implemented recommended changes and began identifying patients who qualified to be admitted directly to stepdown.

“Almost immediately, our TAVR direct to SDU admissions increased from 0 to 80%+,” reported the client.

“Moreover, in the first seven quarters for patients bypassing the ICU, length of stay improved 106%, from 3.5 to 1.7 days. That alone resulted in 1,245 ICU bed days saved.”

Since implementing these care pathway improvements, over 700 TAVR patients have been admitted directly to SDU post-procedure, resulting in signifant clinical and

financial improvements for patients and the health system. Importantly, improved results were achieved in the safety end points for composite mortality or stroke and 30 day cardiac readmission.

Through the use of the Biome Performance Manager™, and with the assistance of Biome clinical services peronnel, the cardiovascular team actively monitors progress of this initiative- and they continue to sustain and improve upon the gains made over the last 24 months.

“Trying to solve the problems of the healthcare system are complex,” said the Director of Clinical Analytics. “It’s important that you find the right partner. Biome has really helped us derive benefit from all of our enterprise data; without them, I don’t think I could do the work that I do day-in and day-out.”

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.

Biome Analytics

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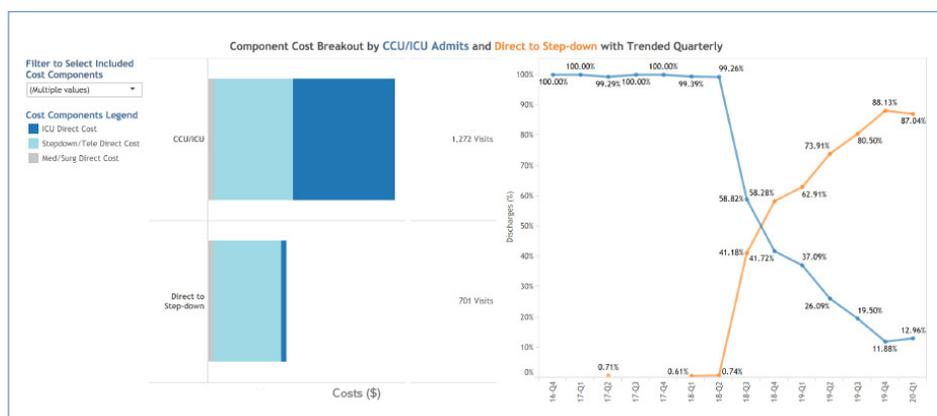


Figure 2: Quarterly improvement trends; TAVR Direct to Stepdown (demonstration data)